THIS WEEK'S NATIONAL PETROLEUM NEWS

The Recognized Authority on News, Markets and Technical Developments in the Oil Industry

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COMING MEETINGS

Lubricate for Safety Week, May 23 to 30.

Society of Automotive Engineers, White Sulphur Springs, W. Va., May 31 to June 5.

Oil Field, Gas Well and Refinery Workers Union, International Convention, Hotel Tulsa, Tulsa, Okla., June 1 to 4.

American Petroleum Institute, Division of Production, Eastern District, William Penn Hotel, Pittsburgh, Pa., June 4 and 5.

Dixie Interstate Board, Adolphus Hotel, Dallas, Texas, June 15.

Pennsylvania Grade Crude Oil Assn., 13th annual meeting, State College, Pa., June 18, 19.

American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 29 to July 3.

American Petroleum Institute, Division of Production, Mid-Continent District, either Tulsa or Oklahoma City, sometime in Sept.

American Chemical Society, semi-annual meeting, Pittsburgh, Pa., Sept. 7 to 12.

World Power (Fuel) Conference, Washington, D. C., Sept. 7 to 12.

Kentucky Petroleum Marketers Assoc., Brown Hotel, Louisville, Ky., Sept. 9 and 10.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 16, 17, 18.

American Institute of Mining and Metallurgical Engineers, Cleveland, Ohio, sometime in October.

Indiana Independent Petroleum Association, fall convention, Hotel Severin, Indianapolis, Ind., Oct. 21 and 22.

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Oil Taxes Dramatized at Tulsa Exposition

● One of the most striking exhibits at the Ninth International Petroleum Exposition which opened at Tulsa May 16 is that prepared by the American Petroleum Industries Committee. The old car broken down by the huge sack was placed at the south entrance to the exposition grounds to typify the excessive tax burden which the motorist now carries. Behind the car is a tank on which is painted a list of all the principal special taxes borne by oil. The total represents the tax per barrel of crude and is more than the selling price of the oil at the well.

NATIONAL PETROLEUM NEWS

VOLUME 28 NUMBER 21

Supreme Court Decision in Guffey Case Bars Federal Control of Oil

By A. M. PETTY
N. P. N. Staff Writer

THE U. S. Supreme Court has probably banished the specter of federal oil control by its decision May 18 annihilating the Guffey Coal Law.

So long as the Constitution and present membership of the Supreme Court remain unchanged, there seems little chance now for Congress to enact a valid oil-control statute.

Every door seems closed now to a federal law for regulating crude oil production, refining or local marketing of petroleum products. The court's decision also indicates that the federal government has no power to regulate wages and hours in these branches of the oil industry.

The decision likewise spells the doom of the Wagner Labor Disputes Law and apparently blocks the road to any other federal attempts at regulating relations between employer and employe where interstate commerce is not involved.

Strangely, though, the validity of price-fixing was left hanging in air by the majority opinion. Opinions concurred in by four of the nine members of the Court, however, held that the federal government has the power to fix prices for interstate sales.

The Guffey Law decision disposes of the possibility of regulating oil production under the "commerce powers" of Congress and, as in the AAA decision, denies the use of the taxing powers to this end. There still remains the untried possibility that a valid oil control law could be enacted under the so-called national defence powers.

Senator O'Mahoney, Wyoming, regards the Supreme Court's invalidation of the Guffey Law as further emphasizing the need for his bill (S-3363) for federal licensing of all corporations engaged in interstate commerce.

But even this plan for detailed regulation of business, sponsored by the American Federation of Labor, seems of doubtful constitutionality. The court, as now constituted, seems disposed to brush aside subterfuges to accomplish indirectly what Congress cannot do directly.

"To a constitutional end, many ways are open; but to an end not within the terms of the constitution, all ways are closed," according to the majority opinion read by Justice Sutherland and concurred in by Justices McReynolds, Roberts, Butler and VanDevanter.

Without amendment of the constitution, or curbing the powers of the Supreme Court, it now appears as if the ambition of the New Deal to subject all business to federal control seems impossible of fulfillment.

It is, as Chief Justice Hughes said in his separate opinion, now up to the people to decide.

"If the people," said Hughes, "desire to give Congress the power to regulate industries within the state, and the relations of employers and employes in those industries, they are at liberty to declare their will in the appropriate manner, but it is not for the court to amend the constitution by judicial decison."

That is almost like serving notice on President Roosevelt that the New Deal policies of regulating local matters from Washington will not be supported by the Supreme Court—as long as its membership and powers remain unchanged. It amounts to a challenge to the President to place the issue before the people in the form of a proposal to amend the constitution to give Congress the powers denied it in the NIRA, AAA and now, the Guffey, decisions.

The Guffey Law attempted to declare the bituminous coal industry to be so impressed with public interest as to become virtually a "public utility". It imposed a tax of 15 per cent on the

sale of coal at the mine with a drawback for producers accepting a code similar to the coal code under the late NIRA. Government agencies and contractors dealing with the government were required not to use any coal from a mine not under the code.

Elaborate machinery was set up for fixing coal prices. Power to fix maximum hours and minimum wages binding on *all* coal producers was delegated to producers whose output equaled two-thirds of the total annual tonnage. A labor board to regulate relations between employer and employe was set up and employes were guaranteed rights to bargain collectively.

Before the Guffey Bill was passed, the provisions for production control were eliminated. The bill was reluctantly passed by Congress and this was one concession won—despite President Roosevelt's plea that Congress forget its doubts "however reasonable" about the bill's constitutionality and pass it..

The majority opinion ruled that the tax was in reality a "penalty" and not for the purpose of raising revenue; hence, it was unconstitutional. The labor provisions were voided as being beyond the powers of Congress; the delegation of power to a part of the producers to fix labor standards for all was denounced as "most obnoxious". No ruling was made on the price-fixing provisions in themselves, although they were knocked down as being inseparable from the labor provisions.

In a separate opinion, Chief Justice Hughes concurred generally with the majority except that he held the price-fixing provisions were separable and valid so far as interstate sales are concerned, even though other portions of the law were unconstitutional. Hughes, alone, touched on validity of the marketing provisions. He held that the federal government has the power to prohibit unfair methods of competition in interstate commerce. So far as the marketing provisions of the coal code applied to interstate commerce, they are valid, according to Hughes.

Justice Cardoza read an opinion, concurred in by Justices Stone and Brandeis, upholding the price-fixing provisions even as applied to intrastate sales which "directly or intimately" affect interstate commerce. On other points, these three justices declined to rule, contending that the suit was "prematurely" brought.

While the majority did not find it necessary to rule on validity of price-fixing, it expressly stated that nothing in its opinion should be taken "as indicating that the court is of the opinion that these provisions 'pricefixing', if separately enacted could be sustained."

Four members of the Supreme Court, therefore, hold that the federal government has power to fix prices as regards interstate sales, at least. If this opinion is shared by even one of the five justices, who did not reveal their views today, it apparently would mean that the price-control features of the Lea bill to regulate interstate transportation of natural gas are constitutional. It also might mean that prices could be fixed for f.o.b. sales of gasoline or crude oil shipped to another state.

THE majority opinion vigorously attacked the theory that Congress has, apart from any of its specified power, a broad power—not expressed but implied in the so-called general welfare clause—to legislate on local matters. Encroachment on rights of the states was condemned in no uncertain terms.

"Every journey to a forbidden end," said the majority opinion, "begins with the first step; and the danger of such a step by the federal government in the direction of taking over the powers of the states is that the end of the journey may find the states so despoiled of their powers, or—what may amount to the same thing—so relieved of the responsibilities which possession of the powers necessarily enjoins, as to reduce them to little more than geographical subdivisions of the national domain.

"It is safe to say that if, when the constitution was under consideration, it had been thought that any such danger lurked behind its plain words, it would never have been ratified," the opinion added.

The court pointed out that merely because commodities produced or manufactured within a state are intended to be sold or transported outside the state does not render their production or manufacture subject to federal regulation under the "commerce clause". To hold otherwise would be to "nationalize" all industries, it was said.

"The same rule applies to the production of oil," said the court, citing the Champlin case in which it was held that production was not a part of interstate commerce.

Summing up its opinion that labor provisions of the Guffey law are unconstitutional, the court said:

"We have seen that the word 'commerce' is the equivalent of the phrase 'intercourse for the purpose of trade.' Plainly, the incidents leading up to and culminating in the mining of coal do not constitute such intercourse. The employment of men, the fixing of their wages, hours of labor and working conditions, the bargaining in respect of these things—whether carried on separately or collectively—each and all constitute intercourse for the purpose of production, not of trade. The latter is a thing apart from the relation of employer and employe, which in all producing occupation is purely local in character."

The court pointed out that the wage and hour provisions, collective bargaining, the labor board and its powers, fall primarily upon production and not upon commerce. Since the federal government has no power to regulate production, it cannot regulate these incidents leading up to production.

Admitting that the production of every commodity intended for interstate sale and transportation affects intersate commerce, the court held that such effect was only "indirect."

The court emphasized the distinction between "direct" and "indirect" effect, remarking that it turns not upon magnitude but entirely upon the manner in which the effect has been brought about. The court said:

"If the production by one man of a single ton of coal in-

(*Continued on page* 66)

The Editor's Viewpoint

"Itching Footers" Pledge Motor Vacations

By Warren C. Platt, *Editor*

By Teletype
TULSA, May 19

THE "Itching Footers" are on the go, DRIVING to Texas, Mexico, California, the Northwest, the Northern Woods, Maine and scores of other points. By noon today when this was filed on the teletype to Cleveland, more than a thousand of them had told us where they are going this summer on their vacations and that they were going to use gasoline to get there.

Tulsa, starting last Saturday morning, began to realize that its foot had been itching for some time and that the best remedy is gasoline—driving the car to wonder places of the country. Saturday morning the town awoke to find itself challenged "Are You an Itching Footer," from banners at its leading service stations and from the pages of the newspapers. Since then, as the automobile owners have needed gasoline, they have learned what the answer is at the stations as well as at the booth of the NATIONAL PETROLEUM NEWS at the International Petroleum Exposition.

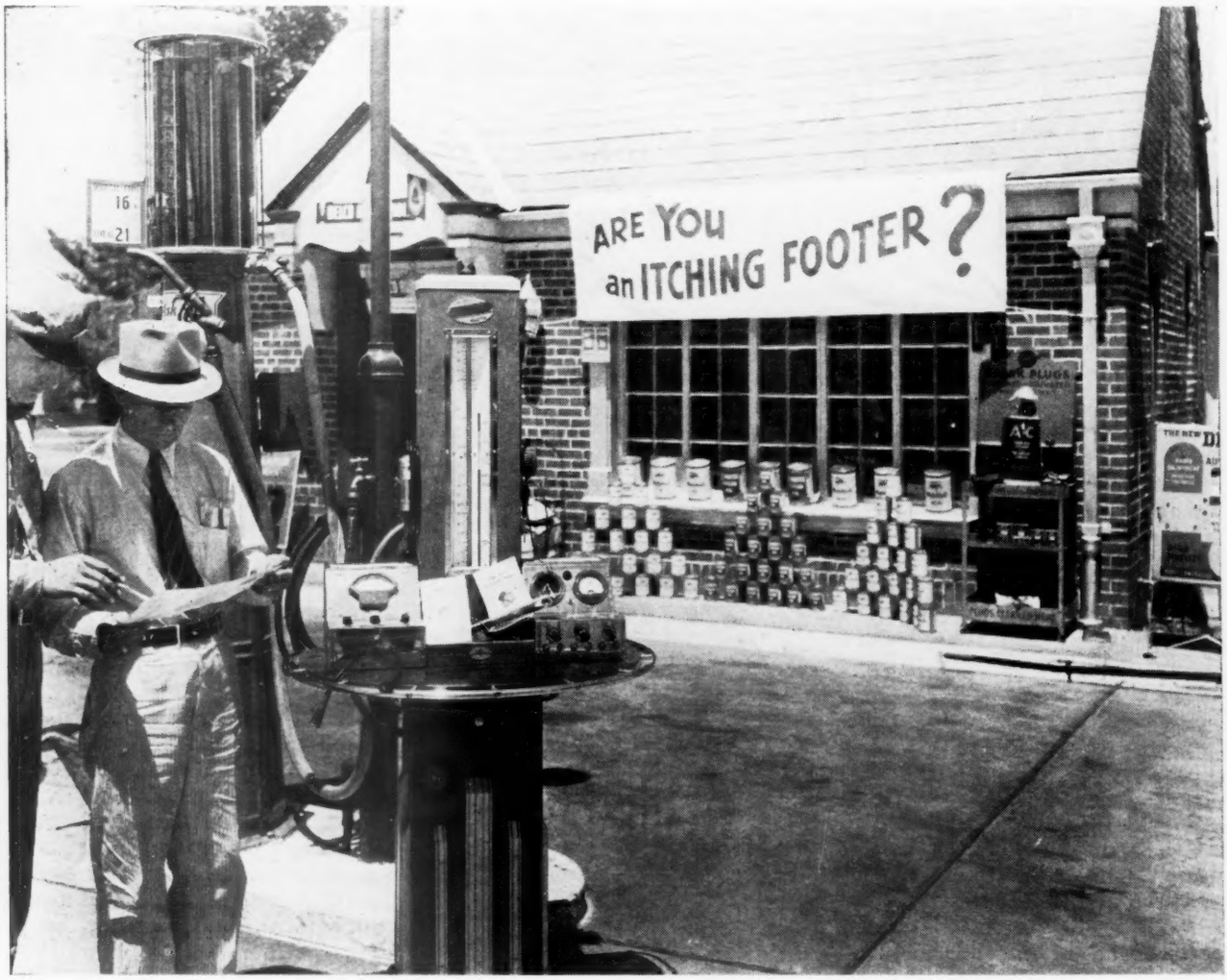
The "Order of the Itching Foot" has been launched to see if the people in the oil industry cannot be stirred not only to do all of their own traveling possible by automobile but also to do a better job selling motoring travel to their friends and acquaintances.

It is too early yet to make any predictions but, from the way the idea has caught on here at Tulsa, one may be excused in predicting that the job can and will be done. Each applicant to membership in this new and distinguished order, though it is typified by a picture of one's pedal extremity, is required to pledge that he will do all of his traveling by car that is possible and will also sell the idea to others.

The filling station attendants are taking the signed pledges as well as a half dozen people

Hundreds of Tulsa stations are decorated with "Itching Footer" banners this week

More than a thousand motorists joined The Order of the Itching Foot at Tulsa service stations and at the National Petroleum News booth at the International Petroleum Exposition during the first two days of the oil show



at NATIONAL PETROLEUM NEWS' booth at the exposition grounds. Membership in Tulsa is not limited to oil industry employes, but almost everyone in Tulsa is related to the oil industry in one way and another.

When the application has been properly made out and signed—for this is really serious business of showing the means for selling more crude oil and gasoline despite the funny name for it—the applicant is given a decalcomania sticker in three colors for his auto windshield, being the trade mark of the Itching Footers, it is surprising how the town is talking about "Itching Feet" and clamoring for windshield pedal extremity stickers.

It looks as if the idea has caught on for sure but we will have more to tell you about it next week. It is a bit too early yet for details.

In Praise of the Industry's Truck Drivers

AFTER driving some 5000 miles the past few weeks in the old South I am again impressed with the fact that the oil industry's truck drivers are entitled to a real compliment. They are, and I have not run into a single exception, thoughtful, courteous and careful drivers. They stay strictly on their side of the road, don't fudge an inch over the center line and frequently help you to pass them by signalling that the road ahead is clear — or still blocked.

Pretty much the same can be said for the drivers of all the regular truck lines. But unfortunately it cannot be said for what might be termed the amateur or unprofessional truck drivers, those who are scooting about with some small merchant's delivery truck or with a farm truck. Some of those could be locked up for the rest of time to the greater safety of the general public.

But talking of the regular professional truck

drivers, the boys who are at it all the time, day and night, I am glad to say I have found them excellent and considerate drivers. While my driving the past six weeks has only covered a small part of the country, what I have seen of the professional truck driver's skill only confirms what I have known for quite some time.

This is a vast improvement over many years ago when trucking was starting. Today's good driving shows the result of the truck owners' careful training of their men, of their constant instruction on safe driving, of their drivers today being chosen with caution and care and not just picked out of a line of unemployed. It shows that industry has a particularly high type of man running its trucks.

And, the drivers of oil trucks are right at the head of the procession. I hope that tomorrow, when I cover a few more hundred miles, I do not encounter the one oil truck driver who will be the proverbial exception, which, however, may be necessary to prove the rule. W.C.P.

Evidence of Oil Industry Efficiency

By Teletype
TULSA, May 19

COULD the critics of the oil industry have come to Tulsa this week and have viewed with an unjaundiced eye the great International Petroleum Exposition, they would have seen that evidence that would—or at least should—have convinced them of the high degree of efficiency the oil industry has obtained through development and use of the most modern equipment yet devised by the world's best brains.

These critics could not have walked the several miles and more down row on row of displays representing the most modern and best technique that manufacturer and manufacturing and engineering ingenuity can devise, and still repeat charges of waste, inefficiency and disregard of the public's interest.

These critics could not have come and failed to see—unless totally blind—the vast array of manufacturing enterprise of every kind representing hundreds of thousands of employes in all walks of life, offering to the oil industry the best of their skill and brains, and dependent in whole or in part on the oil industry's success for their own existence.

It is unfortunate indeed that every citizen even women and children, could not have walked down the rows of glistening, smooth-running machinery with which the oil industry produces, refines and distributes one of the cheapest but most useful products of the world. Unfortunate also it is that every oil industry employe, from the roustabout on the well to the head of the company, from the "bull gang" in the refinery yard to the president, from the filling station attendant to his big boss, could not be here and study the best evidence of oil industry efficiency yet assembled. Such an innoculation of knowledge and enthusiasm would send each employe out against the critics of the industry more confident than ever that the oil industry, and American industry as represented here today, deserve the world's approbation for the job they are doing.

The oil industry has grown and improved just as its contributing and allied manufacturing enterprises have grown, and that means almost every kind of a manufacturing industry in the country. One could not help viewing the 180,000 square feet of equipment glistening bright in the Oklahoma sunshine, some $12,000,000 of it right there on the grounds, without thinking of all the hands all over the United States that worked on this very equipment; without thinking of all the hundreds of thousands of hands that are making the equipment by which the industry is keeping 25,000,000 automobile owners joyfully sailing down the smooth highways of the country paid for through oil industry effort. One could not be unmindful of the thousands of inventive minds that made this equipment possible and of the thousands over the country that even tonight, are plodding away at drafting board and bench and lathe working on the better equipment that the industry will use tomorrow.

I—AND please pardon the personal pronoun—could not help but get enthusiastic and romantic standing on the grounds this morning and looking over this display of almost 600 exhibits, watching the several thousand exhibitors and their employes showing the equipment to the oil men from fields and refineries and service stations of all the states of the union. The eight expositions of the past all have been great but this one today seems to be far better, more spick-and-span, more in keeping with a progressive industry. To the first exposition of 13 years ago came to mind, a small affair, which stood around a couple of street corners down in the city. That was a marvelous thing, but much of the equipment of today was unknown then and the rest has been so developed and refined that it is hard to recognize it as that of the past.

Today's equipment in size and weight dwarfs that of 13 years ago; today's engines run so they can hardly be heard, not a bearing rattle—all quite different from the days when the main object of some equipment seemed to make as much noise as possible. In the days of the first oil exposition engineers and chemists and scientists of all kinds had paid little attention to oil. It was the rough-and-ready man of the field who kept the business going. Today it is quite the reverse. The man of sci-

ence is everywhere and so are the products of his brain, all aimed at lowering costs—as they have—to the consumer.

At my back as I stood at the Exposition grounds, rose the many tall buildings of the city of Tulsa glistening and it literally does glisten in the morning sun. That is no idle figure of speech. Its buildings, built of and on behalf of oil, top the hills covered by a city of almost 150,000 people built by oil.

It is a far different city and this is a far different oil business than when I first saw Tulsa 27 years ago next month. Tulsa was considered an "oil center" then. Oklahoma boasted of some half dozen fields, puny by today's standards. Today Oklahoma has more than a hundred fields, some that have been the largest of their day in history.

I am no pioneer in Tulsa, nor of the oil industry, but as these 27 years have sped by faster than seems possible, so has sped equally fast the development and improvement and efficiency of the oil industry. It was a restful pause, those few minutes this morning leaning against the gate to look at all this glistening paradise of modern equipment. It seemed like the first pause in 27 years. One had to stop and go back a bit, to really appreciate what this today means and how far it has advanced over the yesterday of nearly 30 years ago.

Even as I rested those few minutes, the oil industry was whistling and whirring past me. You could hear the engines humming—not clattering as of old—the smooth rumble of drive chains and the trucks were coming and going and people, new people and young people, were hurrying about.

Right ahead of me was a brand new derrick, new in style and size, designed and built to do the 15,000-foot drilling that is coming. Beside it was a swivel and hook that will lift 300 tons without trouble, the tons of pipe and bits needed for the three-mile drilling of tomorrow. Near by also was a big, newly designed and noiseless Diesel drilling engine.

All of these were symbolic of the new equipment that is ready for the oil industry's problems of the immediate future, equipment that has not yet been put to use in the field. Some of it, said one manufacturer, will be moved to field use immediately on the close of the exposition. The customer is already impatient of the delay.

With all this rushing speed of planning and designing ahead of the industry's immediate needs, one wonders how much further down the road of efficiency the individual will have progressed even in the next five or ten years.

But I had no time to figure that out, nor have you. I had to hustle on across the sun-drenched main street of the show, so much unlike the oil towns of yesterday, what with its last word in replicas of all steel "oil store buildings" and a modernistic building that might have been brought from Chicago's Century of Progress, and the half dozen steel derricks that rose shining in the sun there and four times as high as the dinky, dirty, wood derricks with which the wells of Oklahoma's first field were drilled, back when Indians roamed at will over the old Indian Territory.

No matter how far away you are from this exotic oil city of the southwest—they call it the oil capital of the world—no matter what mountains, or what sea you may be looking at, will you not, please, read the stories that we print this week about this truly wonderful oil exposition and try to see it the way we, who are here, see it. And won't you also please, try and believe in its evidence of our industry's tremendous efficiency, won't you try and feel with us the industry's ever pushing forward to a still more dazzling array of cost reducing equipment in the future.

It is your industry and it is mine and when you see it all together here in the fields where the gasoline age began, you can't help but get a thrill out of it and be mighty proud of it.

Sales up 18% After Auto Registration Shift

NEW YORK, May 14.—Postponement of the motor vehicle registration date in Connecticut from Dec. 31 to the last day of February resulted in an increase of 18 per cent in gasoline consumption and nearly a half million dollars in gasoline tax collections the first two months of this year, the American Petroleum Institute says.

While a part of the increase in tax revenue was due to the increase of 1 cent to 3 cents in the gasoline tax, the state tax department figures show that even had the tax remained 2 cents, receipts would still have increased by $104,011. The change in registration date was made late in 1935.

Twenty-five per cent more cars were registered at the end of February than on Dec. 31, 1935 and tax collections indicate these cars were used during January and February, when normally most motorists put up their cars for these months.

Texas-Empire Pipeline To Be Extended

TULSA, May 16.—Texas Empire Pipe Line Co., jointly owned by The Texas Corp. and the Cities Service interests, will lay about 150 miles of 10-inch line from Sheldon, Mo., south of Kansas City, to Valley Center, Kans., where connection will be made with the Kaw Pipe Line Co. The latter is the joint transportation system of the Empire Companies, Phillips Petroleum Co. and The Texas Co. and serves western Kansas.

The Texas Empire system extends from Cushing, Okla., to Chicago with branch to Lawrenceville, Ill. The new line will eliminate the present practice of moving Kansas crude south to Cushing and then back northwest to Chicago.

Nine 12-inch loops will be put in on the main line between Sheldon and Chicago. The system carries crude to The Texas Co. plant at Lockport, Ill., to Cities Service refinery at East Chicago, Globe Oil & Refining Co. plant to Lemont, Ill., and the Indian Refining Co. at Lawrenceville.

Visitors at the Ninth International Petroleum Exposition cannot escape being impressed by the heavy tax burden borne by the industry when they see this exhibit of the American Petroleum Industries Committee

Thousands Throng Oil Exposition Grounds As Ninth Show Opens

By Teletype
TULSA, May 19

TULSA'S Ninth International Petroleum Exposition on Saturday at the conclusion of the American Petroleum Institute convention, is pronounced the "biggest and best" in the long history of such shows.

From all sections of the United States and from a number of foreign countries have come thousands of exhibitors and oil men, the former to display their wares and the oil men to learn of the newest in equipment. The displays cover a broad field. From the Diesel engine capable of supplying the power for drilling a hole 10,000 feet deep to the apparatus for cooling your house; from trucks to spark plugs for them; from horsepower to octanes—the industry is well covered.

The show was opened formally Saturday afternoon. W. A. Irvin, president of the U. S. Steel Corp., made the principal address and brief talks were made by others.

One of the striking exhibits is that of the American Petroleum Industries Committee and its affiliated Oklahoma Industries Committee. The visitor who enters the south gate of the Exposition sees first a broken down automobile, completely collapsed in the middle. The burden which wrecked it is a huge canvas bag which indicates taxes.

EVERY form of tax on the car and its parts and the tax which its fuel and lubricants bear are named on labels on the bag. Nearby is a huge sign setting forth all taxes paid on a barrel of oil.

Inside one of the buildings the Oklahoma Petroleum Industries Committee has erected a huge figure, hideous in appearance. It is a giant, or ogre and horrifying growls are supplied at intervals. The figure represents taxation and the legs of the creature are labeled "gasoline taxes" and "motor vehicle taxes".

A petition, mounted on rollers, asking Congress to repeal the federal tax on gasoline is being signed by thousands. Other activity at the booth includes the distribution of literature on gasoline taxes and display of charts and photographs bearing on this subject. Now being introduced in Oklahoma is a small coupon which the service station attendant will hand to each gasoline purchaser. The coupon, made up in several denominations, informs the customer that he has just paid so many cents on the gasoline that went into his tank.

The Exposition as a whole is the most attractive that has been put on here. Exhibitors have made liberal use of services of experts in decoration and the exhibits are beautifully painted and lighted. The first two days indicated that a new record in attendance will be set.

Nearly 40,000 persons went through the gates Saturday and Sunday. All hotel accommodations were reserved long ago

and many are being provided with quarters in the homes of Tulsa people.

* * *

Displays Lavish

TULSA, May 19.—No refiner can expect to look for any type of equipment, any tool or any chemical he could possibly need in his operations, without finding it here at the Ninth Petroleum Exposition. The completeness of the display, the assembly of instruments and auxiliaries is enough to confuse the visitor, until he begins systematically to investigate what is offered.

Especially striking is the lavish showing in every conceivable type of automatic control, recording, indicating and operating instrument. Between 15 and 20 companies are established in and about the scientific and technical building, with the last words in new development in recorders, in anticipating controls, in governors and metering devices. Most of the instruments shown are of course in cut-away dress, every part being visually accessible to the visitor, be he oil executive or high school student. Particularly prominent are the new wrinkles and changes which have been made in the principles and designs of these instruments, showing the continuous effort of the companies making them to increase sensitivity and accuracy of functioning.

New and improved insulating and refractory materials are seen on every hand. Among these materials, many of which are not so new in the business as in new methods of preparation and use of them, are the various preparations of glass and glass wool; new ideas in asbestos, in lighter and more carefully manufactured refractories for high temperature purposes, materials more highly specialized to specific applications.

More spectacular are the demonstrations of the uses of welding and cutting equipment. One welding company has a six-inch pipe rotating slowly while a cutting torch removes a thin spiral perfectly. Another cuts statuettes and figures from steel sheet, the operator moving a guiding wheel over a pattern to direct the torch on the plate two feet below.

Outstanding is the manner in which this material is displayed. Instead of the formless jumble of objects piled helter-skelter and without plan, psychology, art and good taste has been used to a degree worth of the best of the display artist's efforts. The exhibits have not gone Fifth Avenue, but they are certainly arranged to make them attractive to look at and to investigate.

Vacation With Pay Won By Station Salesmen

CLEVELAND, May 19.—After several weeks of negotiation, members of the Gasoline Station Operators Union here came to an agreement with oil companies on a new contract which will entitle company station atendants to vacations with full pay.

An agreement was reached between the negotiating committees of the union and the oil companies on May 16, the date of expiration of the old contract. At midnight of that date a meeting of union members was called to consider the new proposal, which was unanimously accepted two hours later.

The new contract is a continuation of the one in effect during the last year, with one exception. Company station employes who have worked for the company from one to four years will now get one week's vacation with pay annually, while those employed as attendants more than four years will get two weeks' vacation with pay.

The union's original demand was for vacations with pay, an increase in salary, a closed shop, and a blanket contract covering leased stations. The new agreement affects only the companies having their own employes in their stations, and does not apply to operators of leased stations.

An arbitration provision was included to provide supervision by the U. S. Department of Labor instead of the Petroleum Labor Policy Board under the old agreement. Dr. John A. Lapp, federal labor conciliator, arrived May 15 to aid in the negotiations.

It is reported that the union demand covering leased station operators and employes was dropped early in the negotiations. It is expected, however, that leased station operators and their employes who are union men may follow the new contract in working out a plan between themselves.

Service station attendants employed by the following companies in Cleveland are affected by the new contract: Cities Service Oil Co.; Sinclair Refining Co.; Canfield Oil Co.; Pocahontas Oil Co.; Socony-Vacuum Oil Co.; National Refining Co.; Sears, Roebuck & Co.; Firestone Tire & Rubber Co.; B. F. Goodrich Rubber Co.; Goodyear Tire & Rubber Co.

J. G. Jordan, Shell Petroleum Corp., and Ray France, Cities Service Oil Co., represented the oil companies during the period of negotiation, and Phil Hanna, local union secretary, and Charles Bond, of the union executive board, represented the union.

The new contract varies little from the one that brought an end to the city's station operator's strike in 1934. At the expiration of the contract a year ago, the union gained a small wage increase and other provisions were continued. This year the principal provisions are again continued with the addition of vacations with pay.

Study of Competing Fuels Planned

WASHINGTON, May 19.—A study of "competing fuels," including oil, gas, coal, waterpower and other forms of energy, is being considered here, it was learned today. A similar project was proposed in the early days of NRA but little or nothing came of it.

Economists of the U. S. Bureau of Mines, Bituminous Coal Commission, Federal Power Commission, Petroleum Conservation Division of the Interior Department and possibly other agencies are said to be interested.

So far, it is understood that nothing has been done except some preliminary scouting.

Texas Cuts Allowables as Lease In Rodessa Causes Alarm

By LAWRENCE E. SMITH
N. P. N. Staff Writer

TULSA, May 16

LOUISIANA got a new governor on May 12, Richard Leche. A few minutes thereafter the oil industry got a shock.

Opinions differ as to whether the Pelican Oil & Gasoline Co. is trying out the new governor to see whether he will act as did his predecessor, James A. Noe, and compel the Pelican to observe the regular allowable in the Rodessa field, or whether the new governor recognizes as legal and binding the special order under which the Pelican is permitted to produce more than four times as much oil per well as is any other operator in the field.

At any rate, Pelican opened up a few minutes after the inauguration. Brisk was the result. The first 17 hours of flow saw approximately 16,000 barrels produced from the 13 wells which the company has on 120 acres. Normal allowable at 350 barrels per well would have been 4550 barrels daily. The latest figure, as this is written, is 18,872 barrels in the 24 hours ended at 7 a.m. May 15. In the same period East Texas Pipe Line Co. ran from the Pelican properties 23,610 barrels, field reports say.

The order under which the Pelican is operating to capacity, or nearly so, was signed March 24 by Dr. J. A. Shaw, minerals supervisor of the state conservation commission. It authorized the Pelican to produce 20,000 barrels daily for 60 days or until the order was changed. The Pelican got a five-day run then but shut in when Gov. Noe asserted that the regular allowable must be observed by one and all and threw out some hints that he might use the militia to see that everybody stayed in line.

The East Texas Pipe Line Co., headed by Freeman W. Burford, is taking the oil. This line has previously moved Rodessa oil into the East Texas field but currently is loading cars at its rack at Jefferson, Texas, and shipping the crude to Good Hope, La. Movement, it is reported, is on a 5.5-cent per-cwt. rate. Cargo destination is unknown.

Field reports May 15 were that, of the 13 wells on the Pelican property, only five were producing oil, the rest distillate.

Rodessa oil has been in the news lately a great deal. The first controversy between East Texas Pipe Line Co. and the Federal Tender Board was well advertised. The board admitted, when sued in federal court, that it had no authority over oil from Louisiana moving continuously in interstate commerce, even though the movements were through the district defined by executive order as the board's domain.

The board refused to give ground, however, when the East Texas Refining Co., parent company of the East Texas Pipe Line Co., brought suit in federal court to restrain the board from interfering with the interstate shipment of 5272 barrels of gasoline and 193 barrels of kerosine, made, according to the petitioner, from 17,001 barrels of Rodessa crude in the Longview plant of the plaintiff. The board contended that it had full authority to scrutinize any interstate shipments of oil and products from its district, no matter from what kind of crude the products might be made.

Judge Randolph Bryant, of federal eastern district of Texas, upheld the tender board. Under his decision, an oral one, Rodessa crude may not be refined in East Texas plants and the products shipped interstate without obtaining approved tenders, or clearance papers, from the federal board. The East Texas Refining Co. gave notice of appeal.

What will be the result of the disproportionate producing now being done by the Pelican company is conjectural. Some hoped that the new governor of Louisiana would step in. Under the present law he has no authority to, but he might act as did his predecessor. He has shown no haste in the matter. It appeared certain that producers who own offset properties to those of the Pelican would not wait forever but would open up in self defense.

Should that happen, it would be but a short time until the Rodessa field would be wide open. On the Texas side of the line six wells now produce from the same common source of supply. The Texas Railroad Commission has matched the allowable figures set by Louisiana but it, too, would have to recognize the equities in the matter if all the wells on the Louisiana side were turned loose.

The recent four-mile extension southwest of producing territory makes this district one to be reckoned with and the need of a strong proration policy to be adhered to by the two states is apparent. The extension well, American Liberty Oil Co.'s No. 1 Rambo, Cass county, Texas, has not made an imposing showing but indicates big possibilities in the area. Latest gauge available was 96 barrels of clean oil, 43 gravity, in 24 hours. This was produced through one-fourth inch choke on the tubing.

Heretofore in these columns mention was made of an exchange of views between state officials who run the proration business. They are agreed, that is, Texas, Oklahoma and Kansas officials, that allowables have been moving to a level too high to be sustained at the present demand.

Texas took the lead, making a substantial cut and setting May 20 as the effective date of its reduction of the allowable. Customarily, proration changes are made the first of each month. Regular state wide hearing was held on the 14th and the reduc-

tion was announced the next day. Chairman Ernest O. Thompson and Commissioner C. V. Terrell worked together in making the change; Commissioner Lon A. Smith, recently an advocate of higher allowables and announced foe of the interstate compact, did not sit in the hearing.

The new allowable on May 20 is estimated in advance to be 1,143,995 barrels daily. Some Texas fields, notably East Texas, are prorated on percentage-of-potential basis, hence an exact figure cannot be struck in advance, as the potential changes with new completions.

On the basis of the estimated figure, the reduction from the May 1 allowable is 22,000 barrels and is 48,535 barrels under the actual allowable of May 13, the day before the hearing.

The U. S. Bureau of Mines forecast of demand for Texas crude oil over May was 1,132,500 barrels. Thus, for the rest of May, the state will be only 11,495 barrels above the bureau estimate, compared to 32,495 barrels over on May 1. The Bureau's estimate for June had not been received by the commission when the hearing was held.

The East Texas field's reduction was achieved by cutting the percentage of hourly flow allowable from 2.78 per cent to 2.6 per cent. On May 1 the allowable of this field was 445,330 barrels; the figure on May 20 was estimated to be 438,000 barrels. The reduction was supported by testimony of state engineers that bottom hole pressures in the field were falling, indicating too high a rate of withdrawal. Commissioner Smith snorted indignantly a few days ago at such conclusions, said the few wells tested gave no real index to what more than 20,000 wells were doing. Nearly every field in the state shared in the reduction, despite numerous requests for increases.

There was a further drop in refinery operations in the East Texas field over the week ended May 12, the reduction in runs amounting to 3800 barrels daily. Only one skimming plant was running on May 12. Refined products storage at many plants was reported to be full and the battle for intrastate truck business still raged with a further drop in price. Some of this business moved at 3.25 cents.

Another outlet for East Texas crude is about to be opened. American Liberty Pipe Line Co. has tested its 116-mile, eight-inch line from Rusk, Texas, to Norsworthy, on the Houston ship channel. The entire system includes an already existing line from Conroe to Norsworthy and the old Liberty Pipe Line Co. eight-inch line from the East Texas field to Rusk. American Liberty has a connected allowable of 10,500 barrels daily in the East Texas field and is bidding for further connections.

U. S. Crude Production Tops 3,000,000 Bbls.

NEW YORK, May 19.—For the first time in the history of the oil industry, daily average crude production in the U. S., as reported by the American Petroleum Institute, crossed the 3,000,000-barrel mark in the week ended May 16. Gain during the week was 46,350 barrels.

Largest increase last week was in the Oklahoma City field where output rose 22,700 barrels on daily average. Rodessa continued to push forward with output in the field averaging 61,350 barrels daily as against 52,850 barrels the first week in May.

Daily average crude oil imports increased 23,290 barrels.

Daily Average Production, Important Districts, American Petroleum Figures

	Week Ended May 16 Barrels	May 9 Barrels
Okla. City	155,400	127,950
Total Okla.	560,500	537,800
East Texas	447,200	449,750
Total Texas	1,172,150	1,162,750
Rodessa	61,350	52,850
Total Louisiana	226,700	219,200
California	579,800	584,300
East of Rockies	2,428,250	2,377,400
Total U. S.	3,008,050	2,961,700
Crude Imports	85,860	62,570
Total New Supply	3,093,910	3,024,270

Robert W. Hendee Resigns

By Teletype

TULSA, May 19.—Resignation of Robert W. Hendee, president of the Oklahoma Natural Gas Co., has been announced. It is effective June 1. He will move to Colorado Springs, to assume an executive position with the Colorado Interstate Gas Co., which supplies natural gas to Denver and several other Colorado cities. Hendee's successor here has not been elected.

Five Pennsylvania Bills Hit Oil Industry

NEW YORK, May 15.—Five bills which have just been introduced in the Pennsylvania Assembly have a direct bearing on the oil industry. They propose increased taxes on gasoline, diversion of motor fuel funds, a tax on fuel oil, increased truck registration fees and a chain store tax.

H. B. 13 imposes an additional cent to the state gasoline tax, the receipts to go for unemployment relief.

Any fuel oil used, sold or delivered by distributors in Pennsylvania, not already taxed as gasoline, will be subject to a 2-cent-a-gallon tax if H. B. 36 is passed. The proceeds of this bill also are earmarked for relief purposes.

Reclassification and increased registration fees for trucks and trailers, is called for in H. B. 20. This bill would increase registration fees from 20 to 300 per cent.

Diversion of $3,000,000 from the motor vehicle to the general fund, to be repaid in 1937, is the subject of H. B. 23.

A chain store tax ranging from $1 for the first store up to $500 for each store over 500 would be levied by H. B. 21. Service stations are not exempted in this bill.

So far, none of the bills is out of committee except H. B. 13, relating to the gasoline tax. This bill was reported out favorably by the committee.

Federal Tax Collections

WASHINGTON, May 19.—Federal taxes on gasoline amounted to $12,349,446.62 in April, 1936, an increase of almost $2,000,000 over the corresponding month of 1935, Bureau of Internal Revenue announces.

Tax collections on lubricating oils dropped from $2,749,287.96 in April, 1935, to $2,153,170.49 in April, 1936.

Power Alcohol Boosters Plan Wide Distribution of Alky-Gas

By J. C. CHATFIELD
N. P. N. Staff Writer

DETROIT, May 14 ALCOHOL-GASOLINE blends containing 7.5 per cent farm alcohol will be offered for sale over a wide area in the middle west within the next 30 to 60 days. The first power alcohol plant in the United States at Atchison, Kans., is nearly ready for operation and awaits only clipping of government red tape to begin operations.

The Atchison plant may be the forerunner of a series of similar plants in middle western farming communities. As many as six may be built within the next year.

These are the prospects apparent at the adjournment of the second Dearborn Conference of Agriculture, Industry and Science here today. The conference was sponsored by the Chemical Foundation and its offspring, the Farm Chemurgic Council.

At the first conference a year ago some 300 farm leaders, scientists and business men were registered. This year the conference grew so large that at the last minute it had to be transferred from Henry Ford's Dearborn Inn to Detroit. Nearly a thousand were present when sessions opened.

Few oil men were on hand to hear the industry put on the grill by Francis P. Garvan, president of the Chemical Foundation, for its lack of co-operation in the alky-gas movement which got its first substantial start during the past year through a subsidy of the rich and powerful Chemical Foundation.

First public announcement of the details of the subsidy were made at the meeting by W. W. Buffum, treasurer and general manager of the Chemical Foundation.

To get the first power alcohol plant built the foundation organized the Chemical Foundation of Kansas which loaned $116,000 to the Bailor Manufacturing Co. at Atchison, Kans. This company had a distillery which was not operating and a survey showed the amount of money needed to put it in shape and increase its capacity.

The Bailor plant expects to start operations shortly after June 1, when government permits can be obtained. It will pay the market price for 4000 bushels of corn daily and will produce 10,000 gallons of anhydrous ethyl alcohol and 32 tons of protein feed daily, Mr. Buffum said.

ALCOHOL output of the plant will be sold by Bailor to Chemical Foundation of Kansas at cost plus 2 cents per gallon. The 2-cent margin will be used partly by Bailor to repay its loan and the remainder retained as profit.

To establish costs the Chemical Foundation has employed a firm of accountants to install a system of cost accounting and keep accurate figures covering the Bailor operations. Mr. Buffum announced at the conference that these cost figures will be open to inspection to any interested person, either friend or foe of alky-gas.

Future program of the Chemical Foundation is to foster a research program to determine the best crop for the production of alcohol. Work already is in progress at Luling, Texas, on the study of the Jerusalem artichoke and the sweet potato. Other research is to be undertaken on the utilization of protein feed in the raising of cattle.

Disposition of the alcohol to be produced at the Bailor plant was not discussed in open meeting by Mr. Buffum. Dr. L. M. Christensen, consulting chemist for Bailor and the Chemical Foundation, stated to this writer, however, that many times the proposed output of the Atchison plant could be sold without difficulty.

Plan of the Foundation is to get as wide a distribution as possible so that alky-gas blends can be popularized with the motorist. Distribution will be centered in the western half of the Mississippi valley at present.

D. B. Gurney of the WNAX Fair Price Oil Co., with 600 retail stations in Nebraska, North and South Dakota, Minnesota and Iowa, will take a large part of the output of the alcohol plant at the start.

For more than a year Gurney has been selling an alcohol-gasoline blend containing 2 to 2½ per cent alcohol under the brand name "Alcogas." Mr. Gurney says he has paid as high as 56 cents per gallon for anhydrous alcohol for blending.

In South Dakota a state law requires that any company offering an alcohol-gasoline blend for sale must use at least 2½ per cent alcohol in the blend. The state has been testing blends and has fined eight station operators in the past few months for selling blends without the minimum alcohol content. Fines have ranged as high as $50.

Under his contract with Chemical Foundation of Kansas, Gurney will pay cost of the alcohol plus 10 per cent, but not in excess of 25 cents per gallon, f.o.b. Atchison. His cost will thus be half what it has been in the past.

If the Chemical Foundation is to avoid dipping into its capacious purse as a result of its alky-gas project it is apparent that Bailor's cost of making anhydrous alcohol at its Atchison plant cannot greatly exceed 20 cents per gallon. This figure is a long way from the price which other distillers have charged for anhydrous alcohol.

Because of the cheaper price Gurney will build up the alcohol content of his "Alcogas" to 7.5 per cent, he said today. The product will sell at the price of Red Crown. It is said that

Chemical Foundation officials have urged Gurney to sell his product at a premium over regular but that he has refused to do this.

A list of distributors of alcohol-gasoline blends made from products of the Bailor plant will be made public within a few weeks by Dr. Christensen. The Foundation is selecting its distributors to give the greatest possible geographic spread.

Present goal of the Chemical Foundation is to foster the building of additional plants so that more alcohol will be available. In his address Dr. Buffum stated his belief that plants should be locally owned and that farmers who will raise the raw material should have a substantial interest.

In an exhibit shown in connection with the conference a plan was outlined for the erection of a plant in a typical Class A farming county. The typical county would have an area of 480,000 acres divided into 4453 farms and having a population of 49,849 persons. In the county would be 2385 farms with an income of $1500 per year or more. The county would have an automobile registration of 12,859 autos, 1831 commercial vehicles, 2140 trailer trucks and 1600 tractors.

Suggestion of the exhibit was that such a county should erect four syrup plants in the four quarters of the county. Each of these plants would process 100 tons of Jerusalem artichokes daily during six months of the year. Product would be syrup and cattle feed.

Syrup from the four plants would be taken to a central alcohol plant for fermentation. The central plant would produce 10,000 gallons of alcohol daily for 300 days per year from the 22,000 gallons daily output of the four syrup plants (operating 6 months only).

Figures were quoted showing the annual motor fuel bill of the county to be $1,545,000 ex tax. It was estimated that farmers in the county would be paid $480,000 per year for their artichokes, that the distillery pay roll would be $170,000 per year. The total of $650,000 spent locally in the county would be thus 42 per cent of the present annual motor fuel bill of the county.

Discussing the prospect for future plant building Dr. Christensen said that he hopes the development will not go along too fast until the Bailor plant shows what costs of operating the distillery will be. He said however that chambers of commerce, farm groups, and others appear anxious to get plants built quickly and that as many as six plants may be built within the next year.

The hottest prospect now appears to be the Iler Distillery at Omaha, Neb. Like the Bailor plant, this is a shut-down distillery which would require revamping. Reports at the meeting here were that it is planned to put in the process installed at the Bailor plant as soon as funds can be raised. It is not known whether any Chemical Foundation subsidy will be granted the undertaking although it is said that Dr. Christensen has been to Omaha to confer with the promoters.

THE oil industry as a whole and the Standard Oil Co. of New Jersey in particular were thoroughly panned by Francis P. Garvan, president of the Chemical Foundation and of the Farm Chemurgic Council, in the opening address of the power alcohol session of the conference.

Garvan, a strong nationalist said that the oil industry is unfortunate in being under the leadership of Standard of New Jersey, an international corporation "with $980,000,000 in foreign oil that they have got to take care of."

He charged that the Jersey company "has plotted and planned with the German I.G. of Germany a monopoly of the hydrogenization of coal and the production of a substitute for petroleum, after you have been lulled to sleep and allowed your basic national resources to be burned up uneconomically and wastefully. The biggest boondoggle in the world today is the burning up of petroleum. I have the documents right there.

"I know my German I.G. for 20 years, and I have got the contracts between the Standard Oil of New Jersey and the German I.G. to incorporate into a company which has been formed whereby all the patents and the processes and the products and the art of producing petroleum from coal are locked up in there under a system designed to license every American oil company, to control every oil company or every production of motor power in the world, except what? Germany. At least the I.G. had loyalty enough to preserve uncontrolled the rights to make gasoline from their own coal, but the rights of America were not reserved for America without German control."

Garvan made much of the current A.P.I. committee estimate of 12,000,000,000 barrels of known oil reserves in the U. S. He declared that the safety of the country depends on keeping an adequate reserve for war so that foreign oil need not be depended on in an emergency. Whether the reserves be adequate for 13 years, 25 years or 39 years Garvan asserted that the nation will some day run out of oil and should now begin to use power alcohol to preserve reserves for emergency use.

Discussing the relative costs of gasoline and alcohol Mr. Garvan said that comparisons made by the oil industry are not fair or good bookkeeping. He suggested that oil men "are the boys that stopped their arithmetic at 12 years of age," because they do not recognize the capital value of oil in place, considering only production and distributing costs. He pointed out that power alcohol is renewable year after year and not a wasting asset.

In his best jury manner Garvan made his audience shout with laughter when he distributed reproductions of an advertising booklet of a Standard of New Jersey affiliate and of the Cities Service Co. in England.

The New Jersey affiliate booklet described a 33 1/3 per cent alcohol blend as being the perfect motor fuel. It recommended the blend for its tremendous power, acceleration, anti-knock, latent heat factor giving remarkable engine

smoothness and quietness, engine cooling properties, reduction in valve wear and overhaul bills, solvent action on carbon, ability to keep carburetors clear of water and to increase miles per gallon and maximum speed.

Garvan accused the industry of insincerity in recommending alcohol blends in England while declaring them to be harmful in this country.

In addition to the New Jersey and Cities Service advertising Garvan distributed reprints of motor advertisements in the Philippines offering alcohol engines for trucks and tractors.

Closing his address, Garvan suggested that Standard of New Jersey has solved all the problems of the alky-gas proponents except how to make the alcohol and what to make it from. He pointed to the recent article by Walter C. Teagle in Colliers as evidence that the oil industry faces exhaustion of its resources and to the British booklet as proving that alky-gas is a perfect fuel.

The question of reserves was discussed also by Dr. Benjamin T. Brooks of the Chemical Foundation staff of consulting chemists. Dr. Brooks defended the paper he wrote a year ago with L. C. Snider for the American Chemical Society meeting. He pointed to a number of utterances by oil industry leaders since then to show the worry in the minds of oil men about the future supply of oil.

Floyd F. Kishline, chief engineer of Graham-Paige Motors Corp., in discussing fuels of the future expressed the opinion that fuel and engine manufacturers can solve the problem of a future motor fuel without undue difficulty. He pointed out that "if a fuel offered less combustion chamber deposit, lower mixture temperature necessary for evaporation, and a higher octane than gasoline, it might still be highly desirable for use in automobiles, even though it fell somewhat short by comparison in some other respects, provided such shortcomings are not too difficult to surmount."

Mr. Kishline particularly warned the conference not to seek compulsory alcohol blending with motor fuel. He said that compulsory blending has not been successful in other countries and probably would not be successful here.

Final speaker at the session was Fred A. Eldean, assistant to the president of the American Petroleum Institute, who suggested without success that the conference adopt the following resolution:

"The Second Dearborn Conference affirms its faith in fundamental research working in harmony with fundamental economic laws and deprecates attempts to achieve the ends of industrial use of farm products through artificial action which looks toward compulsion direct or indirect by legislative enactment."

In presenting the resolution he suggested that if efforts are made to force alcohol blending that the public will get the idea that this is merely another farm relief panacea and that there must be something wrong with the movement if legislation is necessary.

While artificial stimulation by legislation or subsidy may appear successful for a time it "may be accompanied by public repercussions resulting in irreparable injury," Mr. Eldean said in urging the winning of public acceptance in the usual manner.

"Under the operation of normal economic laws the public is entitled, and will ultimately obtain, the most efficient product for the particular use at the lowest possible price," he said. "The American motoring public, is the consumer of motor fuel. It must pay the price and it must be served. If alcohol as a motor fuel has the qualities claimed for it and can be sold at economic prices then the obvious thing to do is to go out and market it. The public will get what it wants. No one can stop it. No one can stop progress. It would be foolish for the petroleum industry to attempt to do so. It is equally foolish to endeavor to force the use of alcohol as a motor fuel through legislation."

Mr. Eldean south to allay fears of a shortage of oil by showing how known reserves have grown along with consumption, each increase in demand bringing an increase in known reserves.

Rules on Gas Tax

By Teletype

WASHINGTON, May 19.—United States Supreme Court has ruled in a suit brought by The Texas Co. that Alabama has no power to tax gasoline sold to the U. S., nor to tax such gasoline in storage.

Mehring Named Treasurer Of Ethyl Gasoline Corp.

NEW YORK, May 15. — Appointment of John Mehring as treasurer of the Ethyl Gasoline Corp. to succeed the late Arthur E. Mittnacht, has been announced by E. W. Webb, president.

Mehring has been connected with the Ethyl Corp. since its organization in 1924. He is 40 years old, and a native of New York City. His first business experience was gained in association with E. D. Arnold, agent and affiliate of the Standard Oil Co. of N. J. After serving in the Navy during the war, he went with the Midwest Refining Co. in 1919, in its Grass Creek, Wyoming, field. Later he entered the shipping business in New York.

He has been assistant treasurer of the Ethyl Corp. since 1927.

John Mehring

Coal Industry Asks Fuel Oil Tax At Disney Bill Hearing

By Teletype

WASHINGTON, May 19

EFFORTS of the coal industry to slap a tax on fuel oil to "equalize competition" with coal featured the hearings today on the Disney oil bill before the Ways and Means Committee.

Congressman Boland, from Scranton in the heart of the Pennsylvania coal regions, was granted a hearing on his bill (HR 12161) to tax all fuel oil used in the United States at the rate of 1 cent a gallon and to hike the "tariff" on imported fuel to 1.5 cents a gallon.

"This tax on fuel oil will bring in $158,000,000 a year," Boland told the committee. "This revenue bill will come from a group of people well able to pay, because it is only the well-to-do who burn oil — the average home cannot afford an oil burner. Oil used as a fuel is a luxury."

Boland said that there was a three-fold reason for enacting his fuel oil tax bill. Besides raising revenue, he said that it would conserve a diminishing but very necessary natural resource (petroleum) by promoting the use of coal of which there is an inexhaustible supply.

Boland's other point was that his tax bill would provide employment in the coal industry by eliminating the "unfair competition" from fuel oil. He pointed out that much more man-power is required to produce a ton of coal than an equivalent amount of oil.

Besides, Boland said, the fuel oil tax would be one of the easiest taxes to collect. The consumer would pay it, and the last man handling the oil would collect it, he said.

Boland was preceded on the witness stand by John D. Battle, of the National Coal Association, who strongly endorsed the Disney bill.

Mr. Battle said that "dumping" of foreign oil in the United States forces the price of American fuel so low that it displaces coal. He cited figures showing the striking increase in the use of heating oil in homes in the last few years. If the Disney bill is enacted, Battle said, the coal industry will be able to recapture some of its markets lost to oil. Apparently, he believes that the bill would increase the price of fuel oil, thus inducing consumers to return to the use of coal.

This position is contrary to that taken by Russell B. Brown, counsel for the Independent Petroleum Association of America, who was the principal witness for the bill appearing May 18 and 19. Mr. Brown told the committee that the Disney bill would not "appreciably" increase the cost of oil to the consumer.

AS EVIDENCE of this, Brown said that oil imported for supplies to vessels, which is now exempt from the so-called oil "tariff," is now selling for 30 cents a barrel more than when this oil was still subject to the 21-cent a barrel excise tax.

The Disney bill, according to Brown, is needed by the oil industry, not to increase prices, but to stabilize imports at a definite ratio to domestic demand and prevent these imports from being used to break the market.

The Disney bill (HR 10483) would increase the excise tax on imports from 0.5 to 1 cent a gallon on crude oil, fuel oil and all other liquid derivatives of petroleum, except lube oil and gasoline on which the tax of 4 cents and 2.5 cents a gallon, respectively, would remain unchanged. It would also restrict oil imports to 4.5 per cent of domestic demand and lift the tax exemption from oil imported as vessels' supplies.

A new tax of $2 per ton on imported asphalt in the Disney bill has brought more protests than any other section. Users of asphalt, such as road builders, state highway departments, roofing material manufacturers, and others have registered opposition.

Declaring that 50 per cent of the asphalt now used on American roads is either imported or made from imported oil, Mr. Brown said the proposed tax or "tariff" was needed to help build up an asphalt industry in this country.

Mr. Brown stated that only the fear of legislation is keeping oil imports down to their present level.

Congressman Driscoll, Pennsylvania, appeared in support of the Disney bill. W. W. Vandeveer, of the Allied Oil Co., Cleveland, was the last witness today. He asked for 15 minutes time. Members of the committee protested so Chairman Doughton said "we might give you five minutes."

Mr. Vandeveer said he has no objections to the Disney bill except that he would like an exemption from the import tax for "cracking still residue" made from American oil in Canada and possibly other countries. A similar request on behalf of British American Oil Co. was made by former Congressman McKeown, of Oklahoma.

Ickes Still Campaigns To Increase Power

WASHINGTON, May 16. — Secretary Ickes still cherishes the ambition to control the oil industry.

This was indicated in his speech May 16 over a national radio hook-up in which he pleaded for support of the Lewis Bill (S-2665) to "change the name" of the Interior Department, which was passed May 13 by the Senate and sent to the House.

In his speech Saturday, Ickes dismissed the oil situation with the assertion:

"The waste of our oil has been and continues to be so notorious- as not to require detailed comment here."

Ickes' hope that all present government agencies even remotely concerned with conservation, as well as any that may be set up in the future, will be centered in his department was evident throughout his speech.

Crude Output Must be Reduced, Oil Men Assert at Tulsa

TULSA, May 16

ONLY 24 of the American Petroleum Institute directors were on hand in Tulsa for the mid-year meeting, which opened May 14. They met Thursday morning for three hours, met again Friday morning. At the end of each session the doors swung open and a resolution came out.

The action of the directors on Friday was apparently pointed at current proposals to impose a tax upon fuel oil so as to minimize its competition with coal, and to compel motorists to use as motor fuel a blend of gasoline and alcohol. Discussion of these questions had been held prior to adoption of the resolution. Said the directors:

"1—That to levy discriminatory taxes or to impose discriminatory legislation upon any industry, or upon its customers, for the selfish benefit of another industry, or other industries, is opposed to the public welfare.

"2—That attempts to eliminate or to equalize competition between domestic industries by uneconomic forms of legislation or taxation constitute indefensible discrimination as between industries and are violative both of business ethics and American tradition.

"3—That free competition among industries, if unhampered by legislation designed to promote the welfare of one industry at the expense of another, alone will assure the public both of its right to enjoy the greatest possible industrial service at the least possible cost and of its privilege to use and to enjoy the benefits of progress in any line of industrial endeavor, as soon as they are available."

First action of the directors by resolution was an endorsement of safety on highways. The industry, declared the directors, collects millions of dollars each year in taxes on motor fuels and lubricants for the stated purpose of financing highways, but this revenue is being used for other purposes, with "resulting neglect of highways and an increase in highway dangers."

The industry was therefore asked to promote safety and to help in maintaining motor vehicles in safe operating condition through use of facilities at service stations and it was pointedly urged to call upon government to use gasoline tax money exclusively for highway financing.

DIRECTORS authorized President Byles to appoint a committee on the disposal of waste in the petroleum industry. This was in accordance with recommendations of a special committee, headed by E. B. Reeser, president of Barnsdall Oil Co., which has been studying the general subject of disposal of industrial wastes. Present standing committees of the Institute concerned with this work will be instructed to confer and co-operate with the new committee, which will be appointed from the directorate.

Formal sessions of the mid-year meeting ended Friday. The final registration was 636.

Around the meeting, outside the regular sessions of technical committees, chief topic of conversation was the crude oil situation. Several statements were unloosed. High production has been a topic for worry for some weeks. The day before the Institute meetings began the news came in from Louisiana that the Pelican Oil & Gasoline Co. had unwound the gate valves on its 13 wells in the Rodessa field and was taking about four times the regulation allowable production, doing it under special order issued in March but little used until May 12.

The statements concerning conditions were not Institute action. They bore the name of individuals. First was that of Axtell J. Byles, president of the American Petroleum Institute, who spoke on his own responsibility. He asserted that producers hold the "key to the immediate future of the petroleum industry. They may hurt the entire industry, and themselves, by continuing to crowd production allowables to the limit. They may help the entire industry, and again themselves, by slowing up production sufficiently to permit the rest of the industry to liquidate surplus stocks, particularly of gasoline."

He mentioned the severe weather of last winter as the cause of heavy production of fuel oil, accompanied by abnormally heavy gasoline production. Result: Large stocks of gasoline when the weather broke. The first quarter gasoline demand provided an increase of about nine per cent over the same 1935 period, said Mr. Byles; indications are that the second quarter gain over 1935's second quarter will be about six per cent. But, he said, gasoline demand was abnormally heavy in 1935 and "even the expected increases in motor vehicle registrations and use this year probably will not be sufficient to assure gasoline consumption throughout the rest of 1936 at the same high rate as in the first and second quarters."

"A little foresight on the part of the producers and a slight curtailment of crude oil output at the present time would tend to improve the situation later and obviate the usual effects of forcing too much crude upon the market. Also, a reduction by refiners of crude runs to stills would help," said Mr. Byles.

"Generally speaking, the industry is in a better position as regards earnings than in some years. While the industry is not even yet getting as large a financial return from its investment and services as is the tax collector, many companies are showing favorable earnings reports.

"Employment continues to gain, especially in the refining

branch of the industry, where the number of workers is nearly at 1929 levels, and average weekly wages are above 1929 levels. The industry is contributing substantially to the restoration of general trade activity by continuing its heavy purchases of the products of other industries.

"Uncertainty as to future trends in taxation and legislation still exerts a discouraging influence upon essential planning for the future."

Another individual statement was that of Charles F. Roeser, Fort Worth, president of the Independent Petroleum Association of America, also an Institute director. He agreed with the Byles views on restriction but thought it should come on flush production and bore most heavily upon the theme which he has been discussing for several months—higher prices.

"The unusual demand for petroleum products and the low comparative commodity price of those products suggests that petroleum is entitled to move into a better position," said Mr. Roeser. "It cannot hope to do this if the industry ignores all the proven facts of the past three years and permits a few who are tempted to sell large flush production at the current price to bring back conditions which prevailed a few years ago. . . .

"Both producers and regulatory bodies should take a leaf out of the recent history of the industry and correct the present situation so they can enjoy the benefits of an increased price rather than suffer the injury of low prices. The vitally significant factor in our domestic situation is our own production. We can control this. We cannot control the other elements. If we are practical and realistic, we will not confuse high production totals at an uneconomic price with a fair return."

Ed Landreth, Fort Worth producer, had a message for his fellow directors. He then released his statement to them to the press. He urged close examination of the current situation and said that all the states should stick to the Bureau of Mines recommended allowables.

"There appears to be altogether too much concern manifest over the matter of a few barrels of oil which some state may receive by reason of the fact that it most accurately fits its actual production to the Bureau of Mines quota," he said. This state jealousy will surely kill the state compact method of oil control, if unchecked.

T. R. Goebel, Skelly Oil Co., re-elected president of the Natural Gasoline Association of America

"The foregoing statement about state jealousy does not mean to disparage the natural desire, arising out of state pride, for each state to secure an equitable portion of the oil market, but there must be a spirit of give and take preserved as a dominant keynote of this co-operative venture. Trivialities must be kept in the background and those states now in compact should set an example of fair play and devote their energies to winning other oil producing states, e.g., Louisiana, into the fold. Considering the success already attained along this line, this program would seem possible of attainment. If the state compact plan of oil control fails, the people will no doubt feel that federal regulation is required."

More Townlot Drilling

TULSA, May 16.—Remaining restricted blocks along the east side of Oklahoma City were opened to drilling May 12 in a city-wide election. Areas involved lie between the older part of the Oklahoma City field and the extension north of the state capitol, now under intense development. Included in the subdivisions voted on last Tuesday was Lincoln Terrace, containing many of the city's finest homes. Property owners in that area have held out against zoning their property for drilling but made little effort to beat the proposal in the election. They are centering their efforts on court fights.

Natural Gasoline Assn. Re-elects Goebel

All officers of the Natural Gasoline Association were re-elected for a second term at the convention of the association in Tulsa May 13-15. These officers are: T. R. Goebel, Skelly Oil Co., president; R. E. Haylett, Union Oil Co. of California, W. E. Reardon, Columbian Gasoline Co., and Fred R. Ketchum, Owens, Libby-Owens, Gas Department, vice presidents; Wm. F. Lowe, secretary-treasurer.

The following new directors were elected: R. E. Beckley, Standard Gasoline Co. of Calif.; C. E. Brock, Peoples Ice and Fuel Co.; D. E. Buchanan, Hanlon-Buchanan, Inc.; R. A. Carter, Continental Oil Co.; F. L. Chase, Lone Star Gasoline Co.; R. E. Cornwell, Carbide and Carbon Chemical Corp.; D. B. Dow, Indian Territory Illuminating Oil Co.; T. R. Goebel, Skelly Oil Co.; R. H. Hargrove, United Gas Public Service Co.; R. E. Haylett, Union Oil Co. of Calif.; L. B. Jackson, Oklahoma Gasoline Plants, Inc.; Fred F. Ketchum, Owens, Libbey-Owens, Gas Dept.; J. A. LaFortune, Warren Petroleum Co.; E. R. Lederer, Texas Pacific Coal and Oil Co.; W. B. Moran, J. E. Crosbie, Inc.; R. N. Parks, Virginian Gasoline & Oil Co.; E. L. Peck, Empire Oil & Refining Co.; W. E. Reardon, Columbian Gasoline Corp.; F. E. Rice, Phillips Petroleum Co.; Chas. F. Roeser, Roeser & Pendleton, Inc.; O. H. Schoenwald, L. H. Wentz, Oil Division; S. S. Smith, Shell Petroleum Corp.

Uniformity of Motor Fuel Volatility Will Aid Automotive Design

By ARCH L. FOSTER
N. P. N. Technical Editor

TULSA, May 15

SOME method for measuring and definitely indicating the relative volatility characteristics of motor fuels is imperative, in the opinion of engineers, expressed before the 15th annual meeting of the Natural Gasoline Association of America here May 13-15.

Such a yardstick is needed by both the fuel manufacturers and by the automotive designers, before the best advantage can be taken by either of the additional volatility material available in large quantities from petroleum and natural gas sources.

Uniformity of fuel volatility, or a reduction of the volatility characteristics of fuels sold to the motoring public to a definite and known scale, is indispensable, automotive engineers said, before the engine fuel system designer can produce a mechanism which can be adjusted simply and easily by the factory or the operator, to take advantage of superior volatility in fuels, or to give the best performance on fuels differing greatly in volatility properties.

The automotive industry was represented by Gilbert Way, engineer with the Chrysler Corp., and by Wheeler G. Lovell, from the research laboratories of General Motors Corp. They said the industry must be governed in its design changes and improvements, not by the most volatile, but more nearly by the least volatile fuel likely to be offered to the owner-operator of the car. One reason for this is that bad performance of a car engine is usually blamed on the engine and not on the fuel, these men stated. Way showed that, in one instance, a repairman reaped a harvest by replacing coils in cars which refused to run, and later the trouble showed up again in a short time, being actually due to vapor lock of a fuel not balanced with the high temperature at which the fuel system operated.

Dr. G. G. Brown, of the engineering department of the University of Michigan, director of the research program of the association, showed that as high as 12 per cent gain is obtainable in maximum power output of an automotive engine by permissible increases in the volatility of the fuel.* His data shows that a reduction in the air-fuel mixture temperature of about 4.3° F. increases the maximum power output available by about one per cent. Similarly, for each reduction of one degree F. in mixture temperatures, a reduction of two degrees F. in the 50 per cent evaporated temperature of the fuel is required to give equivalent performance.

*National Petroleum News, May 13, page 41.

W. E. Reardon, Columbian Gasoline Corp., re-elected vice-president of the Natural Gasoline Association of America

Brown finds that the mixture temperatures of cars have dropped steadily since 1930, the difference between 1930 and 1935 cars being about 35° F. This permits an increased power output of about nine per cent, according to his figures. By comparing test data obtained on the road, this improvement in power is slightly greater than that obtainable by increasing the octane number of the fuel from 50 to 68 octane number. This octane number increase is about equal to the difference between a fairly poor third-grade gasoline and a good regular-priced gasoline.

Therefore, Brown states, the improvement in power in the automobile the last ten years is due about equally to the increases in octane number, and to the increase in the volatility of the fuel. A two-year lag appears between the introduction of fuels with a given increase in volatility and the marketing of cars which operate at the correspondingly desirable lower mixture temperatures, showing that the automotive men are awake to the changes in volatility and are taking at least partial advantage of the opportunity offered to improve performance.

The real advantage obtainable from more volatile fuels shows up at top speeds, it has been found. Neil MacCoull, of The Texas Co. found that, by taking full advantage of the increased compression ratio made possible by the lower mixture temperature and by the increased octane number of the more volatile fuel, a gross increase in maximum power of 18.7 per cent is obtained. Brown finds, however, that at constant-speed, part throttle operation, at lower than maximum loads or speeds, volatility itself has little effect on mileage. Mileage under these conditions he states, appears to be dependent

directly upon the heating value of the fuel per gallon.

The automotive engineer faces some real problems in redesigning cars to operate on still more volatile fuels, Way and Lovell point out. (Their papers appear elsewhere in this issue). One of the most bothersome of these problems is that of the stylist, the design engineer who builds the car to attract the eye of customers. In recent years this angle has complicated the problem, by bringing into use narrower radiators, lower cooling rates, a more closely enclosed engine and fuel system. Little change may be expected in this part of the car's design, it appears, as long as such designs appeal to the public and enable the sales departments to "bring home the bacon."

As the reduction in mixture temperatures seems to be the prime factor in obtaining increased power from the use of more volatile fuels, the reduction of these temperatures is dependent on the temperature of the air to the carburetor, on how much heat the manifold supplies, and on how much heat is removed during the vaporization of the fuel. In the nature of things, atmospheric temperature is the lowest at which this intake air can be obtained, without impractical refrigeration, Lovell pointed out. Cars cannot be sent out without hoods, as customers would doubtless object, he said.

Similarly, Way states that the customer would also probably object to a carburetor mounted on the running board or out in front of the radiator. Important reduction in mixture and fuel system temperatures will obviously necessitate radical changes in design principles; the designer however, is not called on to make these complete changes all at once, but over a considerable period of evolution of a new design, so that the customer becomes accustomed to the trend gradually.

Vapor losses from fuel tank and carburetor vents is one serious limitation to the practical use of greatly increased volatility, Way stated. Fire hazard is thereby increased appreciably; the fuel buyer loses not only volume of fuel purchased but the highest octane number material in the fuel, reducing that quality correspondingly.

Ice formation in the carburetor, sometimes completely stopping the throttle passage, occurs with very volatile fuels, it has been found. Public interest in operating economy militates against the losses which result from too much volatility, Way believes.

A volatility range of about 70° F. can be handled with a given "calibration" of fuel system, Way has found. During discussion of his paper, he was asked if a system of indicating the volatility index by a series of brackets, say in 30°F. intervals, would be of any service to the automotive engineer in designing fuel systems, and also, for example, a hand-operated adjustment for the system to operate on fuels differing in volatility index. The opinion was expressed that some such idea, if properly and practicably developed, would aid in simplifying the problem. Two volatility grades were suggested, so that the adjusting mechanism could be as simple as possible for the operator's convenience.

To the impartial observer, hearing the papers and discussion on this more and more important subject during the symposia of 1935 and 1936, the necessity for some type of volatility indicator, some "volatility number" analogous to octane number, is apparent. Every informed technologist knows the course of events in the two industries, following the development of the first octane number determination method, and the definition of what octane number means.

Volatility is proved conclusively to be the next important property of a motor fuel. As in the case of anti-knock properties, it is essential that engine and fuel be matched to obtain optimum results. A common and understood yardstick was and is equally indispensable to make this matching possible.

A yardstick for volatility seems no less needful now than did octane number designation some few years ago. If a ten or twelve per cent improvement in power, and so on is producible by increasing volatility, the automotive engineer should and doubtless will, when practicable, grab at that opportunity, when he feels on safe ground.

Such increase will increase the yield of motor fuel for refiner and natural gasoline manufacturer as well. Observation of the problem indicates that the development of suitable, workable volatility number offers only a tithe of the work and effort which the octane number investigation called for during the last five years. Several plans have been offered which, whether or not they are now practicable, still form the basis for developing a suitable method.

W. W. Scheumann, of Empire Oil & Refining Co., in his paper reviewing and criticizing the various methods proposed to designate volatility by a single number points out several factors which must be reconciled in working up a volatility indication. Among these are temperature correction, and what he considers the need for using two points on the A.S.T.M. distillation curve. (This paper is published elsewhere in this issue.) Several technologists do not agree that two points are necessary to include. These matters can be worked out by discussion and by test work to determine the relative importance of different factors.

In any case, it has been put up to the motor fuel industry to work out a volatility index. The usefulness of it has been indicated. Such an index need not be withheld from use until perfect. The octane number method was not, and still is not, perfect by any means. Volatility can be indicated closely enough for all practical purposes and improvement of the index will follow as experience points the way. So argue the technologists who have been active in this field for several years.

To Address Oil Scouts

TULSA—National Oil Scouts will be addressed at their annual meeting, May 29 and 30, by E. DeGolyer, geologist and oil operator, and W. L. Horner, of Core Laboratories, Inc., Dallas. Final program will be completed within a few days.

Simple Index of Volatility Needed For Education of the Public

By W. W. SCHEUMANN

THE need for a simplified volatility index which would primarily be of value in oil company sales and advertising activities, in emphasizing this characteristic of motor fuel upon the public was discussed in a paper presented before the convention of the Natural Gasoline Association at Tulsa, May 13-15 by W. W. Scheumann, of Empire Oil & Refining Co. The title of his address was "Methods of Expressing the Volatility of Motor Gasolines."

A suitable simple index would amount to a summarization of present tests having to do with volatility characteristics of a motor fuel which have been developed for the oil company and the automotive engineer, he pointed out.

In the first part of his remarks Mr. Scheumann reviewed the early work done on the study of volatility, which portion is omitted in his address as published here—Editor.

* * *

VOLATILITY of motor fuels, are intimately related to their A.S.T.M. front end distillation characteristics, and it is generally agreed that on the average the 10 per cent point on the A.S.T.M. distillation curve, corrected for loss, is the best available indication of the average ease of starting of a given gasoline. Therefore, if the engine temperature and air-fuel mixture supplied by the carburetor (with choke on) are defined, the 10 per cent fuel value necessary for easy starting can be closely estimated. Brown[1] states that this average relation may be expressed as follows:

Easy Starting.—10 per cent evaporated temperature must be less than 1.25 (100 + Engine Temperature °F.).

The middle portion of the A.S.T.M. distillation curve is related to the ease of warming up an engine and the accelerating characteristics, although this relationship is considerably more complex than that previously discussed. Manifold and carburetor details, as well as air-fuel ratios, affect the relationships involved but as an overall average Brown[1] states the following:

Satisfactory Warming Up.—A.S.T.M. 35 per cent evaporated temperature must be less than (100 + 1.5 Mixture Temperature °F.).

Good Acceleration, Driving Conditions. — A.S.T.M. 60 per cent evaporated temperature must be less than (2 × Mixture Temperature °F.).

The temperature of complete vaporization and the tendency toward crankcase dilution are both related to the 90 per cent point on the A.S.T.M. distillation curve. From this value may be calculated the dew point and hence the temperature at which a dry mixture of fuel and air may be formed for any given air-fuel ratio. Abnormally high values tend to promote crankcase dilution. The significance of this factor is probably not as important as those previously discussed.

One other operating characteristic which bears a relation to fuel volatility is vapor lock. Vapor lock occurs when the fuel boils excessively in any part of the fuel system as the result of being heated to such a temperature so that the vapor pressure exceeds atmospheric. It has been found that this temperature is approximately equal to the 10 per cent evaporated value of the distillation curve. A more satisfactory method for measurement of this tendency, however, is the direct determination of vapor pressure as usually carried out by the Reid method. Voluminous data have been published correlating vapor pressure and the occurrence of vapor lock in automobiles.

As a result of all this, the volatility characteristics of motor gasolines can be correctly specified and rendered suitable for any usual engine operating condition by proper choice and control of the 10 per cent, thirty-five per cent, 60 per cent and 90 per cent distillation points and the vapor pressure. In fact, a study of many specifications will indicate that these control points are being used today in conjunction with weather statistics to establish proper seasonal gradation of volatility.

Volatility Index.—In spite of the fact that this method of control is neither complicated in application nor difficult of comprehension, it lacks sales appeal, and there has existed for some time a considerable demand for a still more simplified method of expressing volatility, one which, if possible, would utilize only a single term or number. It is argued that a single index of gasoline volatility would be highly acceptable to the trade in general, as there exists a natural tendency to favor a single number classification over one where the mental effort must be carried out of weighing two or more values against each other.

The general adoption of such a term would therefore be a new source of inspiration to advertising department and would make for more effective sales talks. Other arguments advanced are that it would assist the automobile builder in the design of cars, would simplify

state laws and specifications, and would aid in the establishment of seasonal volatility control.

The use of such an index would require the making of several assumptions; however, in this very fact lies perhaps one of the best arguments in its favor. A general interpretation of the A.S.T.M. distillation test requires that certain assumptions regarding engine temperatures, air-fuel ratios, certain carburetor and manifold characteristics, and other features be made. Therefore, the actual accuracy may be but slightly impaired if several additional assumptions are made, as has been done in some of the following methods proposed for a simplified volatility index.

One of the earliest methods of indexing volatility was the use of the average boiling point. The Bureau of Mines has made use of this value as an expression of overall volatility, in their gasoline surveys. It was calculated by adding the initial boiling point, the maximum boiling point, and each of the 10 per cent distillation points and dividing the sum by eleven[2]. This index assigns equal importance to all points on the distillation curve, which is not true, and it is therefore not desirable as an expression for volatility as related to engine performance.

Brooks and Bruce[3] have suggested a volatility index indicative of the effect of volatility on acceleraion. They suggest the use of varying points on the A.S.T.M. distillation curve as key points, depending upon the mixture temperatures. For example, at 32 F. mixture temperature the 5 per cent evaporated point is the key point and at 212 F. mixture temperature the 80 per cent point is the key point. Under usual operating conditions, mixture temperatures are in the neighborhood of 150 F. to 160 F. and this system would therefore suggest that gasolines be judged for accelerating characteristics from a comparison of their 55 per cent over 60 per cent distillation points, increased effectiveness being indicated by an increase in the reciprocal of the absolute temperature of the key point.

A much simpler proposal, serving about the same purpose,

William F. Lowe, secretary, Natural Gasoline Association of America

is that of Oberfell and Alden[4]. They point out that practically all commercial gasolines have 10 per cent distillation values sufficiently low for satisfactory starting and 90 per cent distillation values which are entirely permissible for satisfactory performance, but that the greatest variations occur in the middle portion of the distillation curve which governs the warm up period. They suggest, therefore, that this characteristic be expressed in a volatility index which is calculated by the following equation:

Volatility Index = 284 Minus 50% Evaporated Temperature °F.

This index can be simply calculated and does offer a means of comparing average relative warming up characteristics of fuels. It gives a good spread of values, U. S. Motor Gasoline being zero on this scale and Fighting Grade Aviation Gasoline about 72. This index is more or less an abstract number and no correction for atmospheric or mixture temperatures is included.

A somewhat similar index has been suggested by Hebl and Rendel[5]. They also discard the question of starting and point out that a fuel of satisfactory warming up characteristics is almost always satisfactory in starting characteristics. Their warming up index is calculated from the 20 per cent and 70 per cent evaporated distillation points by means of an alignment chart which the authors have developed. However, they also recognize the effect of the test temperature on the warming up period and have therefore prepared a temperature correction which is applied to the distillation results. Their volatility index as a measure of warming up quality depends, therefore, upon the 20 per cent and 70 per cent evaporated points and the atmospheric temperature.

This index in some respects is probably nearer technically correct than that of Oberfell and Alden. However, its determination is somewhat more complicated, which is undesirable, since, a primary requisite for such an index is extreme simplicity. The question of temperature correction, is however, a vital one. It is perfectly true that the degree of volatility necessary to give a specified warming up performance differs with operating temperatures. However, whether or not this factor should be included in a volatility index is debatable. From one angle it would seem to be more desirable to keep such an index as abstract as possible, and recognize the desirability of different index values for seasonal conditions.

However, through the activities of many marketers of petroleum products the general public has been educated to believe that improved quality is synonymous with increased numerical values for indices of various sorts. The case of octane numbers and viscosity indices of lubricating oils may be offered as examples of such public education.

The present day car, cannot, however, in many cases, digest highly volatile gasolines in hot summer weather, particularly if such gasolines have a high vapor pressure. The general use of such an abstract index, therefore, would require that one of three things be done. Either the public would require educating to the fact that the most desirable volatility index should vary with the season, or the producer of motor fuels would be forced to excessive re-

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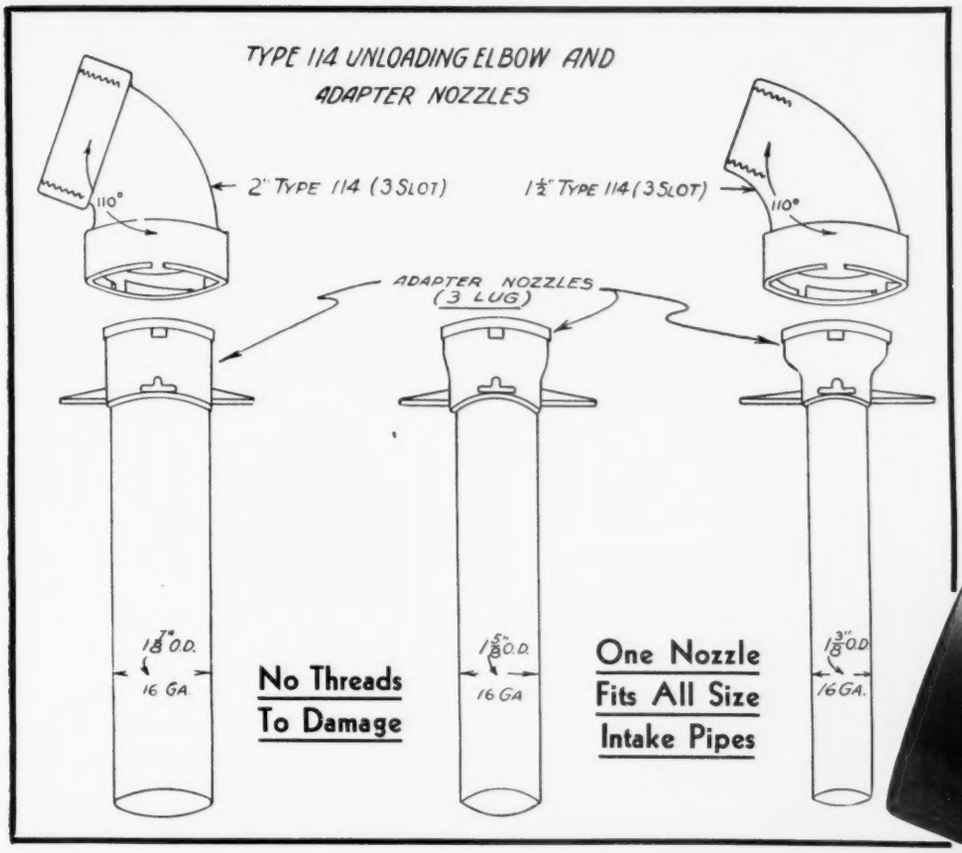

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moval of butanes from his product in order to produce a high volatility index, low vapor pressure gasoline during the summer season, or as a third possibility, the automobile builder would be forced to build cars which could operate satisfactorily on high vapor pressure gasoline in hot weather, although this would offer little relief to cars now in operation. Therefore, the use of an index which would give identical numerical values with gasolines of varying volatility at corresponding atmospheric temperatures has much to be said in its favor.

In this connection, a paper presented by Eisinger and Barnard[6] before the June, 1935 meeting of the S.A.E. is of interest. These investigators studied the effect of partial volatility of fuels as represented by the per cent evaporated at 158 F. and the effect of total volatility of fuels as represented by the 90 per cent point on automobile acceleration with various intake manifold temperatures. They found that both of these factors were of importance, improved acceleration being made possible by either increasing the per cent evaporated at 158 F. or by lowering the 90 per cent temperature. Moreover, identical performance could be obtained by either method, as increasing the per cent at 158 F. by 1 per cent was approximately equivalent to lowering the 90 per cent value by 5 F.

While they do not propose a volatility index based on these values, their data substantiate the claim of Hebl and Rendel that a suitable volatility index should be based on points taken from both the lower and upper parts of the distillation curve. However, it can also be argued that the 50 per cent point averages the amount evaporated at 158 F. and the 90 per cent temperature and therefore if it is admitted that the index based on this value is only approximately accurate this argument holds good.

Conclusion.—At the present time the A.S.T.M. distillation test can be interpreted in terms of engine performance, and when coupled with the vapor pressure test gasolines can be designed for any particular or general service. While these test methods serve admirably the purpose of the refiner and the automotive engineer, they are perhaps too complicated for presentation to the general public, and as a result the story of volatility has not been as widely told as is possible. Considerable demand, therefore, exists for a simplified volatility index which might summarize in a suitable manner the results of these other tests. Such an index would make possible the emphasizing of volatility and would primarily be of service to advertising and sales activities.

Several methods of deriving an index of this type have been proposed. They relate chiefly to the middle portion of the distillation curve and as such, to warming up periods and acceleration in engine performance. There are however, several factors on which complete agreement does not exist.

One of these is the relative necessity for the use of one or two points on the distillation curve. It would appear that the use of one point, such as the 50 per cent value, would be preferable for the sake of simplicity and would probably be of the same degree of average accuracy as the use of several points. The second factor is the need of a method for temperature correction. This should be developed so that desirable index values can be maintained in hot weather without producing a product having excessive vapor locking tendencies in present day cars.

If these factors are properly handled, a volatility index can be evolved which would serve a decidedly useful purpose in presenting a correct story of volatility to the general driving public.

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G. B. Lane is President Supply Men's Assoc.

TULSA, May 15.—G. B. Lane, The Foxboro Co., Dallas, was elected president of the Natural Gasoline Supply Men's Association at its annual meeting this year, May 13. The other new officers are D. W. McKay, Cooper-Bessemer Corp., first vice-president; D. E. Fields, Tulsa Boiler and Machinery Co., second vice-president. W. D. Moorer was re-elected treasurer.

The following new directors were elected, to serve a two-year term beginning June 1, 1936; D. E. Fields, Tulsa Boiler & Machinery Co.; V. C. Canter, Frick-Reid Supply Corp.; Chas. D. Peterson, Fisher Governor Co.; Geo. W. Probst, Clark Bros. Engine Co.

These, together with the following whose terms expire June 1, 1937, comprise the directors for the coming fiscal year: G. B. Lane, the Foxboro Co.; D. W. McKay, Cooper-Bessemer Corp.; W. D. Moorer, Moorlane Co.; W. W. Woobank, Woobank Pump & Machinery Co.; W. A. Schleuter, Refinery Supply Co.

The outstanding feature of the work of the supply men's association this year is the handbook prepared for distribution to natural gasoline men. This handbook contains a large amount of technical and mathematical data supplied by the different members, dealing with subjects of everyday interest to natural gasoline men. The data includes tabulation of constants, mathematical derivations of formulae for engineering and operating calculations, curves for determination and calculation of many of the design and operating factors with which natural gasoline manufacturers constantly deal.

The luncheons and the stag smoker a feature furnished by the supply men's association to the members of the Natural Gasoline Association at all meetings for some years, were again provided this year.

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To Increase Fuel Volatility Involves Many Automotive Design Problems

By GILBERT WAY*

(Presented before the convention of the Natural Gasoline Association of America, Tulsa, May 13-15, under the title, "Fuel Volatility As Viewed By The Automotive Engineer.")

THE principal cause of much misunderstanding and controversial argument between the motor manufacturing and gasoline producing industries has been the divergence in point of view, and the indifference to the other fellows' problems, bred by a lack of understanding.

In order to promote effective co-operation to our mutual benefit, it is necessary that we, as a member of the automotive group, become conversant with your economic and practical problems, and also that you, as gasoline manufacturers, be informed on questions pertinent to fuel utilization with which the automotive man is confronted. To this end we invite you to come with us into our field and see how things look from our side of the fence.

A brief explanation of the workings of an automotive department may not be amiss towards a better understanding as to how we go about our problems. Among its chief functions is the consideration of service complaints from the field. In this connection, the various problems must be diagnosed, a solution worked out and, if possible, the cause removed from subsequent models. It is evident that in the highly competitive automotive business, any company which did not follow this procedure, and ignored the shortcomings of its product as pointed out by service reports, would soon lose ground in the industry.

In the face of the rising trend in fuel volatility as indicated in the various statistical papers which have been presented to this group, it becomes of increasing importance to reckon with the limitations imposed by conventional methods of fuel handling in an automobile, including everything from fuel tank to combustion chamber.

In regards to vapor lock, the bulk of complaints occur during unseasonably warm days, generally in the spring of the year when residual winter stocks of gasolines are still being sold. This occurrence, to a greater or smaller extent, has become an annual affair and is, I assure you, a problem that receives a great deal of attention.

Our experience has been that vapor lock trouble is seldom recognized as such by the average motorist and that the car is generally blamed for having something else wrong with it. We found one situation in which a roadside garage, located in a district where conditions were such that vapor lock was prevalent, did a booming business in replacing coils at $5 a piece on cars that came in and reported erratic running.

By the time the coil had been changed, sufficient cooling had taken place to allow the traveler to continue on his way, only to later discover that the same trouble would again take place. As a result of many such occurrences it has been the aim and desire of the automotive engineer to make his product as free from vapor lock as possible, and, as a matter of fact, complete elimination of this problem would be most welcome.

I believe that it is generally recognized at present that definite limitations in the way of surrounding temperatures make it practically impossible to provide a very considerable margin of safety with the present conventional fuel systems, in which the fuel pump is mounted on the engine block.

The question of dependability is one of the reasons for not having seriously considered many proposed fuel systems. The utility of the present day motor car is largely dependent upon its reliability of operation. As the functioning of the fuel pump is vital to the operation of a car, the passing of a specified minimum life test is essential. To date there has not been a substitute devised that will satisfactorily fulfill all the requirements. Other systems which might solve the problem as far as vapor lock is concerned, introduce undesirable fire hazards, especially in case of accident.

The automotive group is aware of the petroleum industry's economic situation which tends to force the use of highly volatile hydrocarbons in motor fuels. This condition evidently will be considerably improved, according to Dr. Brown's observations, by the advent of polymerization. We believe, however, that increases in vapor pressure of 3 to 4 pounds as suggested by him would not prove satisfactory in use, even though fuel systems were developed to handle this vapor pressure. Dr. Brown states that the carburetor would still be vulnerable to vapor lock if exposed to high temperatures.

Since it is obvious that it is impossible to cool with a medium higher in temperature than the temperature desired, we must then imply that the carburetor should be removed from its present location under

*Chrysler Corp.

the hood. I might venture to say that even a member of the Natural Gasoline Association would object to having the carburetor on his car mounted on a fender or out in front of the radiator, providing such an installation was workable.

In the endeavor to improve fuel handling conditions it must be admitted that the engineer is none too happy with the present style trend which apparently dictates narrow streamlined hoods with all lines denoting speed as being one of its chief beauty features. If this trend continues, it may result in cars of such appearance that one may be in danger of getting a ticket for speeding while parked. It should be remembered, however, that the sale of automobiles is greatly stimulated by eye appeal, in fact, even the relatively unappreciative engineer or oil technologist feels the urge of acquisition when exposed to a display of new models. Thus, while we damn the art department in one breath for bringing on more troubles, we have to hand it to them in the next for bringing home the bacon, which after all is what enables us to even worry about volatility or any other problem.

COMING back to the engineer's viewpoint on volatility, we believe that there are several other practical and serious limitations to the use of highly volatile motor fuels of high vapor pressure in the conventional automobile, even though designed to take full advantage of the superior qualities pointed out by Dr. Brown.

Specifically, we have first the increased vapor losses and accompanying greater fire hazard that would result from the use of these fuels when used in warm weather. An undesirable feature in this connection is the passing out of the lighter fractions through the gasoline tank and carburetor bowl vents.

This action results in a reduction of the highest antiknock portion of the gasoline and also in a total loss of a part of the fuel purchased by the motorist. We cannot escape the fact that the present automobile engine is primarily a heat engine, depending upon the development of heat for its power and, in our present knowledge of the art, must reject and radiate a considerable amount of heat in the process. Twelve pound gasolines in warm seasons would be subject not only to the vapor loss due to high atmospheric temperatures, but would be exposed to the inherently higher temperatures existing in and around a motor vehicle.

Another undesirable limitation is the ice formation in the carburetor which was experienced in Dr. Brown's research work, making it necessary to heat the fuel to 110° F. by means of an exhaust heater. The idle stalling condition, which I mentioned here last year, has since been found to be ice formation in the idling discharge port of the carburetor. With the more volatile fuels, we have also observed the building up of ice around the throttle blade until complete closure of the throttled passage resulted.

With the public interest revived in gasoline mileage, probably initiated by the economic conditions of the past few years, followed by attention as a sales feature, a definite trend has been established towards increasing fuel economy. Among the changes which may be effected as a result of this trend are lower engine speeds and decreased engine and chassis friction. Increased engine compression ratios will be employed only when and if higher octane gasolines are generally available or sufficient wide spread volatility increases accomplish the same result.

R. E. Haylett, Union Oil Co. of Calif., re-elected vice-president of the Natural Gasoline Association of America

The use of very light fuels brings in the question of economy in part throttle or ordinary road operation. Dr. Brown has stated that, under normal operation, mileage is substantially proportional to fuel density. Additional loss in economy will also result if manifold heat is removed. Dr. Brown's charts on part throttle fuel mileage show approximately 10 per cent lower values for the whole family of curves run with the cold manifold as compared to the heated manifold.*

NO VOLATILITY discussion would be complete without consideration of the starting and warm-up angle. Not so many years ago cold weather starting presented quite a serious problem in severe winter. One of the difficulties encountered was keeping the engine running after the first fire occurred, as the choke had to be released just the right amount at the exact moment, in other words, the engineer had no control over the starting mixtures and much depended upon the skill developed by the individual driver.

Some people became fairly proficient in this art, however, a great many were in trouble every time the temperature dropped, and to them this procedure constituted quite a hazard to winter driving. The engineer then developed means within the carburetor to accurately control fuel mixtures during starting and immediately thereafter. With this development, starting troubles, as far as carburetor and fuels were concerned, were very radically reduced.

Another phase of starting about which very little has been

*Discovery, later, that Dr. Brown's cold manifold work was incomplete caused the author to state that this comparison should be modified—Editor.

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CAN HANDLE ANY LIQUID COMMODITY

said, is difficulty in starting when the engine is very hot. This is the result of an over-rich mixture in the manifold caused by the immediate vaporization of any fuel that gets into the intake system. For example, upon depressing the accelerator, a pump shot is dumped into the manifold, is vaporized and adds to the richness of whatever mixture is already present. When the driver does not obtain the instant start expected of a hot engine, he generally pushes down the accelerator several times, thus pumping additional fuel into the manifold, and when still no results are forthcoming, he begins to work on the choke button. All these operations only aggravate the existing over-rich condition, but how is the average driver to know that the manifold must be cleared out by cranking with a set open throttle and to avoid pumping or choking? As can easily be seen, high volatility would, of course, increase the temperature range in which this over-richness would occur.

A SERIES of starting and warm-up tests have just been completed in our cold room which is maintained at a temperature of —10° F. A number of fuels differing markedly in volatility characteristics were used to determine the effect on starting under standard full choke precedure. By making many starts on each fuel, it was possible to determine just what volatility range could be handled by a given calibration.

The range in volatility which could be satisfactorily accommodated was comparatively wide, being approximately 30 degrees at the 10 per cent evaporated point, 50 degrees at 30 per cent and 70 degrees at 50 per cent evaporated. Naturally, the best results were obtained on fuels having volatility ranges somewhat similar to the fuel used for original calibration, however, those within the range mentioned gave fairly consistent results. Except in the case of fully automatic chokes which also give control of the warmup mixtures, performance during warmup was improved as the volatility of the gasoline increased.

There is no question about the potential advantages of high volatility under cold operating conditions. Dr. Brown has ably presented the many advantages of these fuels which could be fully utilized by changes in design which, I believe you can understand, the engine designer is not free to make, being limited by the lower volatility of fuels generally available. He has no choice but to design to suit the characteristics of the majority of gasolines sold. This limitation prevents the full utilization of the potential advantages of the more volatile fuels.

For the satisfactory performance of the present day engine on fuels of average volatility, a hot spot is essential. A distinct advantage of thermostatically controlled manifold heat is its response to atmospheric temperatures. Thus, temperature variations which would be impossible to follow by seasonal fuel adjustment alone, tend to be automatically corrected for by the thermostatic control, which does not know or care whether it's 80 degrees in January or freezing in July. In connection with manifold heat it should be pointed out that the minimum amount which will give satisfactorily low speed performance on average volatility gasolines is provided for by the engineer.

Fred F. Ketchum, Owens, Libby-Owens Gas Dept., re-elected vice-president of the Natural Gasoline Association of America

Through the activity of the Co-operative Fuel Research Committee of the Society of Automotive Engineers, the U. S. Bureau of Mines is about to resume its semi-annual national gasoline survey. These surveys will not only serve to depict the trend in gasoline characteristics but will also enable the engine designer and development man to work on the basis of the average available fuel throughout the country. Having these figures on average volatility which will no doubt be very close to distillation data of gasolines used in development work, and the range successfully tolerated as given above, any gasoline marketer can immediately tell if his product is within the volatility range giving satisfactory starting or if allowance in the way of special settings will be necessary.

THAT the automotive man is co-operating where possible with producers of volatile fuels by increasing the range which his engine will handle, is evinced by provisions or adjustments provided on devices sensitive to volatility, by the instigation of much research work on fuel handling systems, and by his test determinations of the behavior of volatile gasolines in his product.

If the changing economics in the natural gasoline industry so work themselves out that it will be necessary to market highly volatile fuels, the much discussed volatility index would be a great help to the automotive engineer. With the use of an index which would classify volatility within given limits, the motorist could then be instructed to intelligently apply adjustments which might be developed to better adapt such devices to fuels of dissimilar volatility characteristics.

In presenting the viewpoint of the automotive engineer on this volatility problem, the whys and wherefores behind his ideas have been given with a thought in mind that you might be persuaded to think he is not as unreasonable a fellow as you have previously regarded him.

Refinement of Methods Described To Institute Technologists

TULSA, May 16

PROBLEMS of the chemical and physical treating of petroleum fractions were the paramount subjects discussed before the sixth mid-year meeting of the American Petroleum Institute's refining division here this week.

Solvent extraction of lubricants, removal of wax by solvent-filter press methods, clay treating of motor fuels and the prevention of color development during storage and shipping of gasolines were the matters which held the attention of the technologists.

The use of two-solvent systems has distinct advantages in dewaxing by present-day methods, stated W. P. Gee, W. Kiersted and B. Y. McCarty, of The Texas Co. Their paper disclosed a saving in time is practicable when using solvent systems for dewaxing; the system can be cleared of one stock, washed with solvent, and a new stock started through in a very short time with no contamination of the new with the old product anywhere.

The more recent developments in these processes have been in the line of perfection of detail, improvement of process and equipment to refine the processes themselves, improve the upgrading of the product, and to reduce operating and solvent costs and losses.

One of the important points of improvement is in the drying of solvent. Formerly accomplished by the use of soda ash, or by refrigeration, drying is now done by fractionation, following a warming of the material by heat exchange and a settling period to separate most of the water by gravity, in the case of water in wax.

Solvent drying proper is by fractionation, the dry solvent passing overhead from the tower, and solvent-free water being drawn from the tower bottom. Solvent losses from all causes have been reduced from about one-half per cent a few years ago, to 0.05 per cent in the latest installations. Blanketing of the operation by an inert gas, such as flue gas, has also reduced both solvent losses and fire hazard. The gas is produced in a separate burner, at about 20 cubic feet per minute and is circulated by a vacuum exhaust pump from the source through the filtrate receiver and the wax filters to discharge and dry the wax cake. Any escaping gas passes through oil seals to capture solvent carried along, and this seal oil is stripped later to recover the solvent.

AS A result of operating economies, cost of processing has been reduced by 50 per cent in the last three years, the authors stated. Two types of filter are or may be employed; continuous, drum-type vacuum filters, and rotating-leaf pressure filters. By improvements in the types, an insulated filter shell for each filter has replaced the very much more expensive and inconvenient chilled filter house formerly employed. These filters have filtering areas as large as 500 to 800 square feet, as compared to 360 feet in those used earlier.

Other economies are reduction of the solvent turn-over time from 12 hours to two to three hours; a saving in solvent required for the system; replacement of continuous mixing of solvent and charge for the slower and more expensive batch mixing formerly employed; use of regular and thus relatively inexpensive equipment, rather than requiring special equipment at excessive costs.

Processes for clay treatment of motor fuel in the vapor phase by the well known Gray process have progressed both technically and in the quantity of cracked distillate passing through the several installations here and abroad, according to reports by M. R. Mandelbaum, the Gray Process Corp., and P. F. Swanson, M. W. Kellogg Co. Yields of finished gasoline per ton of clay have reached as high as 27,000 barrels, operated over a period of nine months or more. This is higher than the usual yield of course, these authors stated, which may vary from 2000 barrels per ton up, depending on the nature of the cracked distillate, the specifications to be met, and other factors of the individual situation.

One pound of pyrogallol to 10,000 gallons of kerosine prevented this kerosine from going off-color during a six-months' test storage in tropical countries, J. B. Rather and L. C. Beard, Jr., both of the Socony-Vacuum Oil Co., Inc., found in studying methods for the sometimes serious loss and inconvenience experienced by refiners and exporters from this trouble. Materials such as pyrogallol, hydroquinone and its derivatives, and other polyhydroxybenzenes have the property of decolorizing light oils which have formed colored products during storage, they reported. Sometimes the restoration is as good as the original color. If color must still be removed or masked after treatment with these materials, the addition of a suitable quantity of an oil-soluble dye which gives a blue or violet coloration in solution will neutralize the bothersome color still remaining in the product and permit its sale.

All cars and trucks will be using hypoid gears, as soon as machines for cutting these gears can be made in sufficient numbers, W. R. Griswold, Packard Motor Co., predicted before the institute technologists. His paper should be read by all who have as yet only a vague idea of the why and wherefore of hypoid gears. The tooth action in hypoid or in spiral bevel gears is quite complicated, and Griswold, with the aid of numerous diagrams, made very clear just how rolling and sliding action is combined in the operation of these gears.

The hypoid is desired because it permits a lower propeller shaft in the car, lowering the car's center of gravity and

making for speed safety. However, this is not the most important reason for its use, from the engineer's point of view. Hypoid gears are stronger than the spiral bevel type and can more easily be made quiet in operation. On one point Griswold was insistent; the action of these gears is entirely dependent on rigid mounting, on the absence of wear which will permit the teeth to "back off" from each other and "clock." Bearings must have no slack, or tooth wear which eliminate proper tooth action.

This means in brief that lubricants with enough E. P. strength to serve the gears properly are worse than useless if they are abrasive enough to increase bearing or stimulate bearing wear. Low abrasiveness, good stability from both chemical and physical viewpoints and sufficient extreme pressure lubricating characteristics are all equally important. No one of these properties can be sacrificed safely, for the advantage of the other without unpermissible consequences, Griswold indicated.

Remarkable strides have been made in the improvement of the methods of deasphalting and dewaxing lubricants with the use of propane, discussed elsewhere in this issue, as reported by A. P. Anderson, of Shell Petroleum Corp., and H. O. Forrest and Lee Van Horn, of M. W. Kellogg Co. The use of self-refrigeration, of simple and inexpensive equipment of no special requirements to increase costs, the simplicity of operation and the combination of two operations in one continuous system have resulted in making this process one of the most useful of the refiner's modern treating tools.

The use of automatic and recording devices in refining has advanced during the last ten years or so from two or three of the simplest gauges and indicators to more than 300 of the most complete and serviceable recording, indicating and controlling instruments that manufacturers have been able to devise, covering every possible phase of refining operation stated A. C. Proctor and Gustav Egloff, of Universal Oil Products Co. They summarized the present position of instruments in refining, pointed out how labor costs have been reduced, operating conditions controlled and held to the most rigid requirements, and said the present improvements in yields and quality, cost and equipment life may be traced in good measure to proper and effective instrumentation.

The authors covered the design and the efficiencies of the numerous types of instruments thoroughly.

Hanneken Heads Refineries For Standard of Ohio

CLEVELAND, May 14.—Appointment of George W. Hanneken as general manager of the manufacturing department of the Standard Oil Co. of Ohio to succeed the late Lester S. Bale, has been announced by president W. T. Holliday.

Hanneken has been superintendent of Standard's Toledo refinery since its establishment in 1919. He started with the Standard Oil Co. of Kansas at its Neodesha refinery in 1902 as a pipe fitter's helper, and rapidly moved up to the position of foreman of the cracking and coking stills.

When Standard of Ohio started construction of its Toledo refinery in 1917 it summoned Hanneken, who, with four or five others, started the job of planning the refinery layout.

George W. Hanneken, newly appointed general manager of the manufacturing department, Standard Oil Co. of Ohio

Under Hanneken's direction the Toledo refinery established one of the finest safety records in the country.

N.P.A. Standards Group To Meet May 29

STATE COLLEGE, Pa., May 16.—"Engine Carbon—A Monkey Wrench in the Wheels of Progress" is the subject of an address by Dr. W. A. Gruse, Mellon Institute of Industrial Research, to be given at the annual meeting of the Department of Standards and Tests of the N.P.A. at State College, Pa., May 29.

Dr. Gruse's paper, prepared jointly with his associate, Dr. C. J. Livingstone, will be given following a dinner at the Nittany Lion Inn.

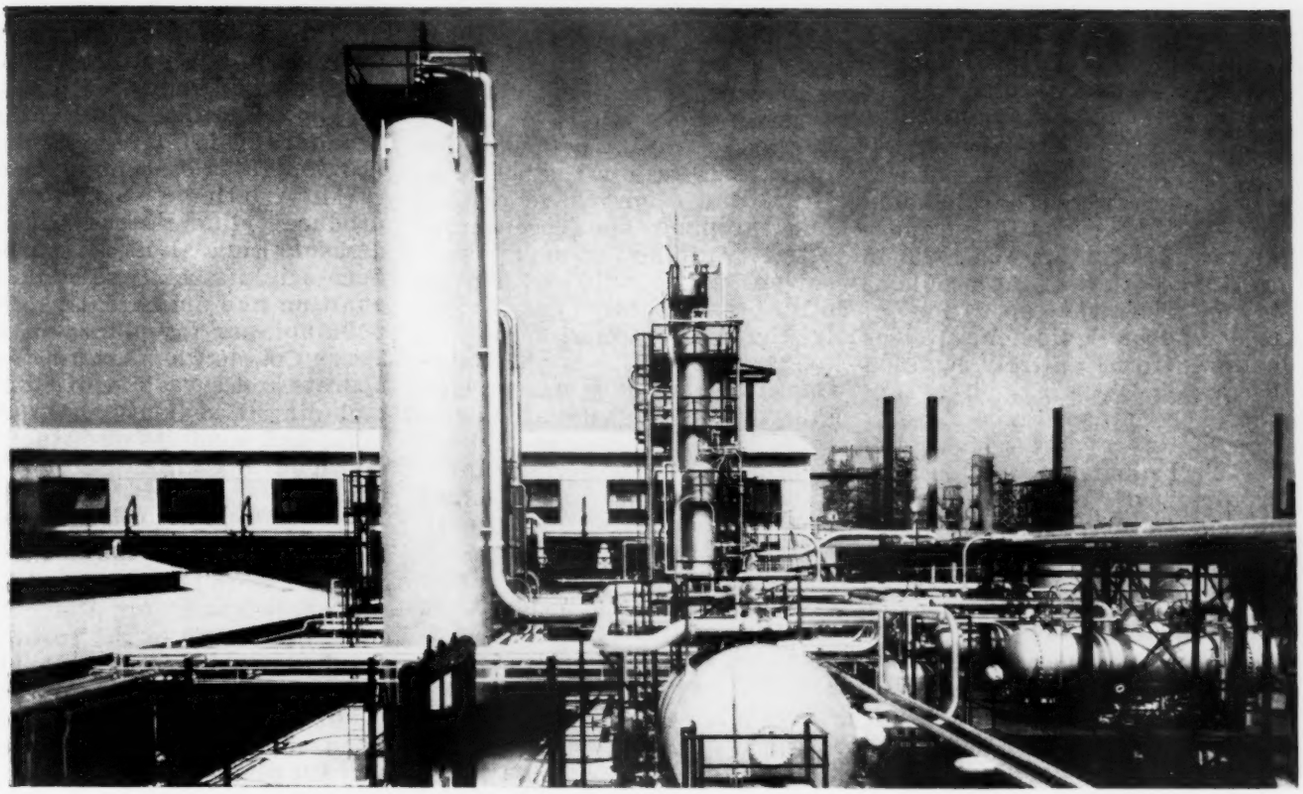
The morning will be devoted to an inspection of the petroleum refining laboratory at the college. After luncheon at the Inn, Hugo A. Kemman, patent attorney for the Pennsylvania Grade Crude Oil Association, will present a paper on the subject of "Inventive Research at State College." This paper will discuss recent patents and the work of the refining laboratory at the college.

Sell Interest in East Texas Properties

TULSA, May 16.—Sale of Roeser & Pendleton, Inc. properties in the East Texas field to R. B. Trippitt and A. H. Meadows, Shreveport, was concluded this week. The deal covered part interest in approximately 500 leases with 65 wells, including operating control. Net interest of Roeser & Pendleton in the properties was 29.75 wells. Some 30 locations are yet to be drilled.

Consideration was reported to have been $1,600,000, of which $400,000 was in cash and the balance is to be paid out of half the oil as and if produced. This is one of the highest prices yet paid for East Texas production. Trippitt & Meadows is one of the largest independent operators in the field.

Fig. 3. Exchangers and solvent recovery system at the Shell refinery at Wood River, Ill.



Continuous Filtration in Propane Dewaxing Found Practicable

By A. P. Anderson*, H. O. Forrest† and Leo Van Horn†

THREE years ago the propane dewaxing process was first brought to the attention of petroleum refiners by the paper of Bahlke, Giles, and Adams[1] presented at the May meeting of the American Petroleum Institute. That paper discussed the preliminary experimental work on the process, and the design and operation of the propane dewaxing plant of the Standard Oil Co. (Indiana) at Wood River, Ill. This original plant has been operated at and above capacity since that time, producing oils of —10° F. to —15° F. pour test, depending on the viscosity of the distillates processed.

During the interval, another plant of essentially the same type, with designed capacity of 1750 bbl. per day, has been built and put into successful commercial operation by the Union Oil Co., at Oleum, Calif., for waxy California distillates.

(Presented Before the sixth Mid-Year Meeting, American Petroleum Institute, Tulsa, Okla., May 11-15, under the title "Propane De-Asphalting and Dewaxing of Mid-Continent Residuum".)

It is the purpose of this paper to present the developments which led to the design of a plant for handling residual stock at the Shell Petroleum Corp's. refinery at Wood River, Ill., together with a general description of the plant itself and a brief review of the operating results to date.

The two new developments which may be considered as largely responsible for the design of the Shell plant were continuous filtration and propane de-asphalting. Of course, the latter was not new in an experimental sense, but its application to commercial operation was new at the time this plant was conceived.

Continuous Filtration

In their paper Bahlke and his co-workers pointed out that: "Experiments being conducted at the present time indicate that a continuous process of filtration . . . . can be readily developed to give results equally as good as, and probably better than, those described herein." They referred to a large amount of development work then being carried out by R. N. Giles and others at the Casper plant of the

Standard Oil Co. (Indiana). The experiments were conducted on a 1-ft.-diameter Oliver drum-type filter installed in a pressure vessel, with propane vapor used as a means of maintaining the pressure differential.

Since the time that paper was presented, the development work has been continued and a great deal of effort was spent in working out all of the problems involved in the operation of this type of equipment. It was believed to be entirely justified because of the axiomatic advantages of continuous operation of any apparatus as compared with batch operation. The problems of maintaining the pressure differential with propane vapor without rise in temperature and removal of the wax cake were satisfactorily solved in the pilot plant, and a great many experiments were made on a variety of stocks to show that continuous filtration was very flexible in its application. As a result of this extensive work, it was concluded during 1934 that the continuous filtration process was ready for commercial application.

De-asphalting

During this same period extensive work was also being carried out on the de-asphalting of various residual stocks. As Bray[2] and others have pointed out, propane has the unique property of acting as an anti-solvent for asphalt and heavier oils at temperatures only slightly above atmospheric (80° F. to 210° F.). It may be used, therefore, not only as a precipitant for wax at a low temperature, but also as a precipitant for asphaltic materials at a higher temperature. As shown by Wilson and Keith,[3] the quality of the heavy material precipitated may be varied from high-melting-point asphalt to lubricating fractions by adjustment of the temperature and propane ratio.

Although this paper deals primarily with the combination dewaxing and de-asphalting plant of the Shell Petroleum Corp., it should be pointed out that two other plants have been built and put into operation where de-asphalting is a major function. The 1200-bbl.-per-day de-asphalting and acid-treating (in propane solution) plant of the Standard Oil Co., at Whiting, Ind., operates on a high-viscosity Mid-Continent residuum to produce cylinder-stock base by de-asphalting alone, or to produce bright-stock base by de-asphalting and acid treating. The 2000-bbl.-per-day-plant of the Texas Co., at Port Arthur, Tex., operates on a variety of stocks, including Mid-Continent residuum, and employs propane for de-asphalting only.

General Basis of Design

During the time these developments were being worked out, the Shell Petroleum Corp. became interested in the installation of a dewaxing plant at their Wood River refinery; and, as a result of their own research, decided upon the installation of a propane plant. Although the two previous plants had been built to dewax distillates and em-

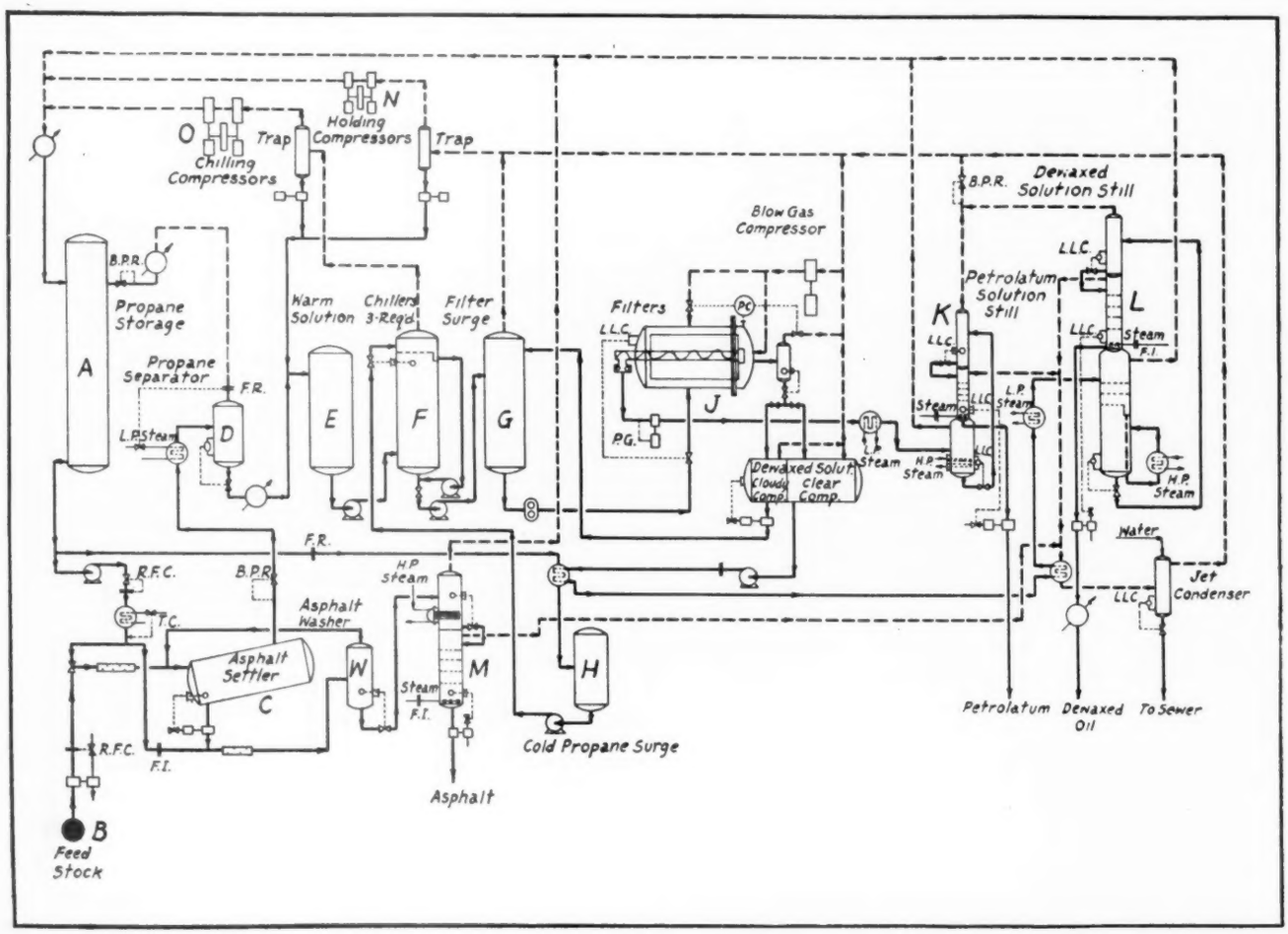


Fig. 1. Flow chart of Shell Petroleum Corp.'s de-asphalting and dewaxing plant at Wood River, Ill.

ployed batch-pressure filters for the purpose, it was decided to use continuous filters for the new plant, because they have many advantages over the batch filters, particularly in ease of operation and in obtaining satisfactory drying and washing. The ability to watch the filter operating and make minor adjustments to obtain maximum capacity and maximum yield is especially useful. Of course, there were problems to overcome, but all concerned agreed that these could be surmounted. The two problems considered of major importance were: removal of wax from the filter shell, and the prevention of temperature rise from condensing propane in the shell. The latter has never caused any difficulty, and the solution of the former was found to be quite simple — although considerable time was spent in solving it, as discussed hereinafter.

The plant was designed to have a capacity of 2450 bbl. per day of dewaxed oil, of sufficiently low pour test so that after subsequent solvent treating and distillation the pour and cloud tests would be satisfactory. These specifications are a very severe test for any dewaxing process; but preliminary experimental work had shown that all cuts would have pour tests of 0° F. or below, and that the cloud would be satisfactory. The charging stock was a long residuum corresponding to about 30 per cent of Mid-Continent crude. Approximately 3.5 per cent of 170- to 200°-F. melting-point asphalt could be removed by precipitation with propane; and the plant was, therefore, designed to include a de-asphalting operation.

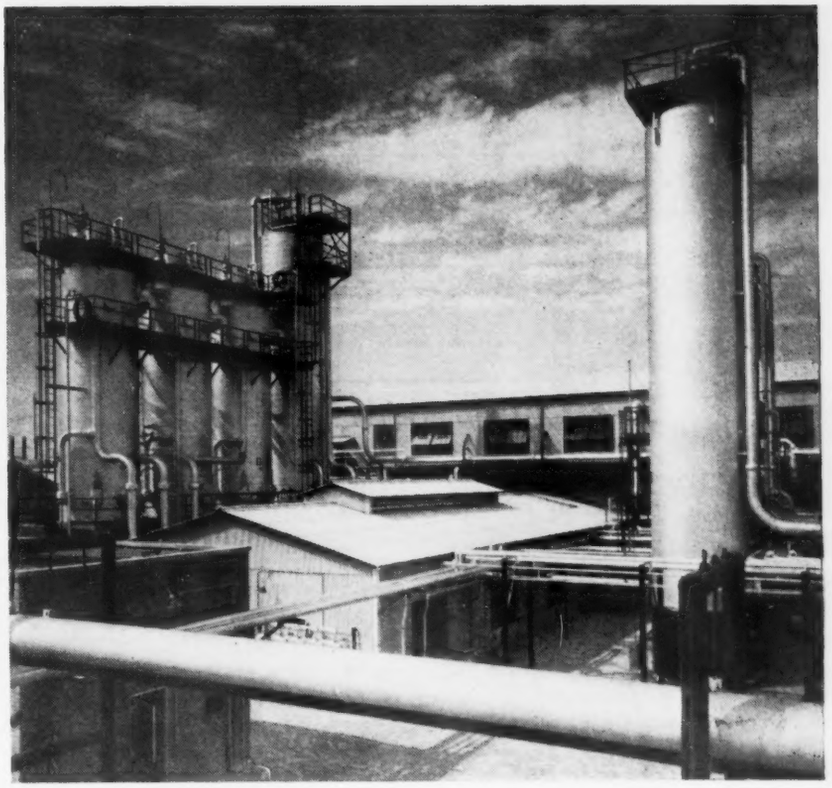


Fig. 2. Chillers, pump house and filter building at the Shell refinery

The Process

A detailed flow sheet of this plant is shown in Fig. 1, including minor changes made since the plant was originally put into operation. The process consists of mixing the raw residuum with about 4 volumes of propane, allowing the asphalt to settle, and then removing about 2½ volumes of propane from the upper oil layer. The remaining solution is then chilled to —40° F. by self-evaporation — adding cold propane from the exchange system to maintain concentration, and then filtered to remove wax — and all products are subsequently de-propanized.

In more detail, the flow of materials through the plant is as follows:

Propane from the storage tank **A** is mixed with the residuum charge **B** in the ratio of four volumes to one; and the solution enters the asphalt settlers **C** where the asphalt, containing about one volume of propane, settles continuously by gravity. This fluid-asphalt solution may then be washed in the vessel **W** with a portion of the fresh propane, or the washer may be by-passed and the asphalt solution fed directly to the de-propanizing still **M.**

The de-asphalted solution from the top of the asphalt settler flows through an exhaust-steam pre-heater to the flash chamber **D,** where sufficient propane is removed to reduce the propane to a ratio between 1.5 to 1 and 2 to 1, by volume. It then enters the warm-solution tank **E,** after having been water-cooled to 100° F.; and this tank supplies surge capacity between the de-asphalting and dewaxing systems.

From this tank the solution is pumped alternately to each of the three chillers **F,** and is there chilled by self-evaporation to —40° F. — the propane being compressed by the compressors **O** and returned through the condensers to the storage tank. Cold propane from the tank **H** is added to the chiller to replace the propane vaporized, and to bring the chilled solution ratio to 2 to 1. This cold propane is obtained by continuous exchange in a tubular unit against dewaxed solution which is preheated to about 70° F. The chilled solution is then transferred to the filter surge tank **G,** from which it is continuously pumped to the filters **J.**

Dewaxed solution is exchanged against the cold propane flowing to tank **H,** and is then pre-heated by the stripping steam and by exhaust steam before entering the still **L.** Here about 95 per cent of the propane is removed at high pressure, and goes directly to the condensers, while the remainder is flashed at atmospheric pressure and then stripped with steam. The wax solu-

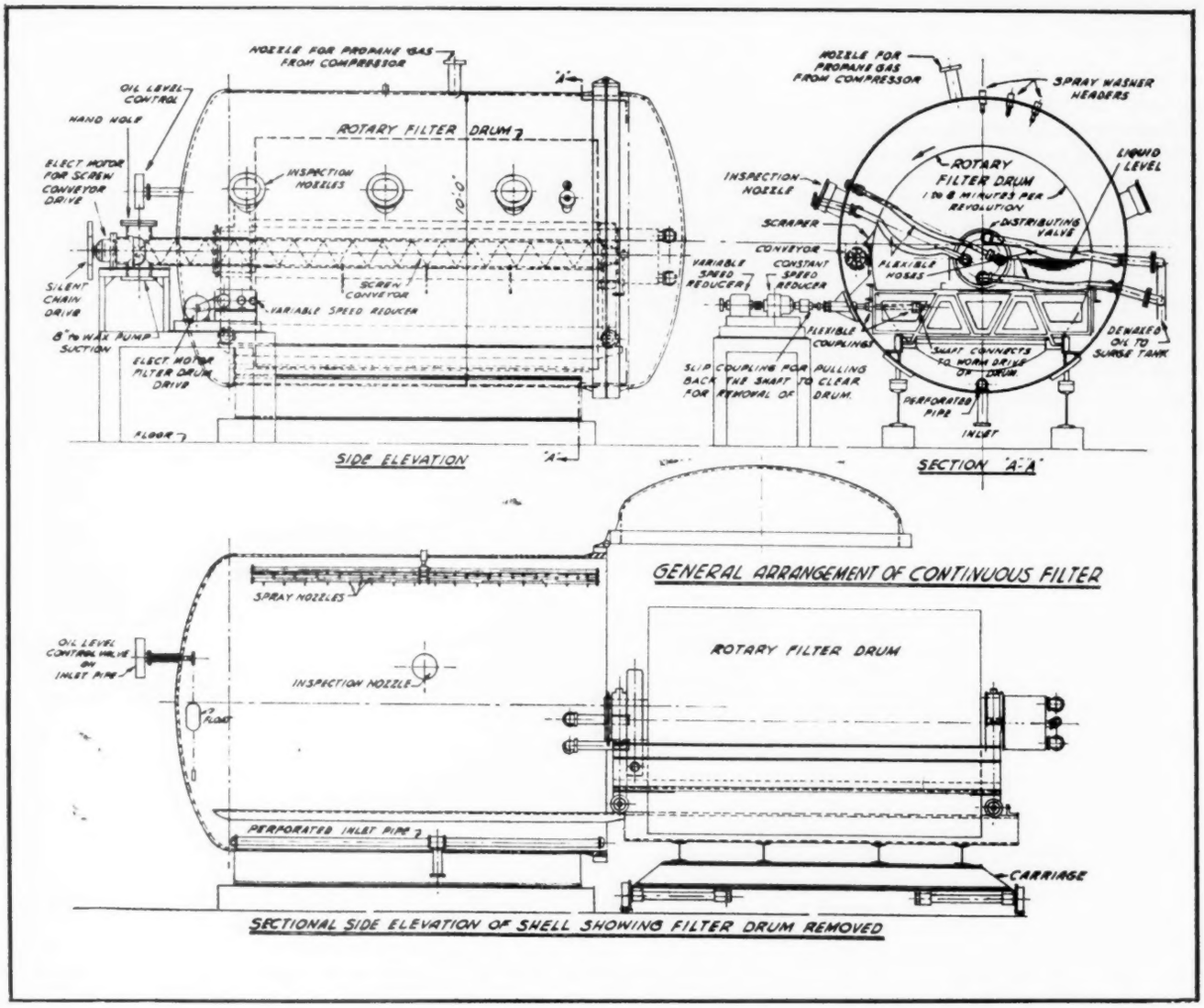


Fig. 4. Elevation drawings showing design of rotary continuous wax filter used in the Shell unit

tion is pumped through an exhaust steam pre-heater to a similar type of still **K**.

The Plant

A general view of the plant is shown in Figs. 2 and 3. In both of these the tall tank in the foreground is the propane storage tank, and Fig. 2 shows the switch house and pump house to the left of the propane storage with the three chillers and filter-surge tank at the extreme left. The compressor and filter building is in the rear. In Fig. 3 the asphalt settler is in the center foreground, with the recovery system immediately behind it, and the exchanger and condenser tanks at the right. The warm-solution and cold-propane tanks are directly behind the propane storage tank.

The major parts of the plant, with the exception of the de-asphalting system and the filters themselves, are quite similar to the batch plants previously described; and it does not seem necessary to describe them in any detail. The de-asphalting system consists essentially of a mixing chamber and a settling tank, and the latter is merely a 10-ft. x 20-ft. horizontal tank with vertical baffles on 3-in. centers, having cross-flow through a manifold running the length of the tank. No difficulties have been experienced with the operation of this system, provided the still temperature is sufficiently high (300° F.) to reduce viscosity and prevent foaming.

The filters themselves may be considered as the most novel part of this plant. Although the design of this filter has been presented before,[3] it is believed that more detailed discussion is pertinent at this time; and a line diagram showing the essential features of its construction is shown in Fig. 4. It consists essentially of a rotating sectionalized drum (Oliver-type) which is partially immersed in the propane-oil slurry. The pressure shell enclosing the drum acts also as the pan to hold the slurry. The drum rotates at a variable speed of 3 min. to 11 min. per revolution, and with a pressure differential across the drum of 2 to 10 lb. per sq. in., with a normal value of about 4 lb. per sq. in. Chilled slurry is fed into the shell, under control of a float in the filter to maintain a pre-determined level of 30 to 50 per cent submergence.

Fig. 5 shows the general features of the filter assembly, with the connection to the master valve at the open end of one

filter. The method of lifting the head and the carriage for receiving the drum when removed from the shell is also evident. Three observation ports just above the conveyor permit usual inspection of the operations at any time. The complete installation of six filters may be noted in this photograph. A rear view of the filter, showing various control instruments and the gas separator on the filtrate line, is presented in Fig. 6. It may be noted that the solution recovered on the drying operation is included with the normal filtrate, because there is no increase in pour test in the material so recovered.

In the operation of the filter, the drum is rotated below the surface of the slurry, and the super-imposed pressure forms a wax cake due to the filtration of the solution. The drum then rotates through the vapor space where the cake is dried, and finally reaches the scraper where blow-back gas forces the cake from the cloth and onto the scraper blade. It then drops onto a screw conveyor, and passes to the suction of a gear pump. Spray nozzles for washing the cake with propane, or for washing the cloth with hot naphtha, are also shown in Fig. 4, as well as the equipment for removing the drum for recovering or for any other purpose.

Solution of Operating Problems

Particularly impressive is the fact that, from the first batch ever fed to the filters, no serious difficulty has been found with their operation up to the point of removal of cake from the pump. Cakes of about ¼ in. are normal; and the formation, drying, and discharging from the drum are very simple operations. At infrequent intervals it is advisable to operate with the dry port partly closed, or with propane in the blow-back in order to improve operation. Such a procedure rapidly clears up any plugging which may occur, and resort to hot-kerosine washing is seldom required. Wet blow-back may be used every few days, and hot washing may be required once a month. Even this is a simple procedure, and does not require heating the entire filter.

Although the very first batch showed that temperature rise in the bowl was of little consequence, and that the filter would operate satisfactorily, it also demonstrated that the wax-removal problem was a serious one. Essentially, this was due to the dryness of the wax cake, which laboratory investigation showed contained much less oil and solvent than had been anticipated from batch-filter and experimental-filter operation. It was impossible to operate for more than an hour, and sometimes less, before the wax pumps would become useless. A number of different types of pumps was tried, some with more or less success, but none was satisfactory.

Laboratory investigations did show that the addition of enough propane to bring the ratio to 1½ to 1 on the wax cake would give a fluid slurry; and, since the wax-recovery system was designed on the basis of a larger amount of wax cake and a high propane ratio, it was adequate to handle this quantity. The slurry so formed was too low in viscosity for proper operation of the gear pumps, and a secondary piston-type booster pump was, therefore, installed in the line to the wax still, and was controlled to maintain a constant discharge pressure on the gear pumps of about 20 lb. per sq. in.

In making this change, propane was fed to the conveyor trough; and the conveyor flights were cut so that it became a mixing device as well as a conveyor. This method of operation was started in the latter part of November, and since that time the plant has been operating continuously with no further difficulties of any kind in the operation of the filters. Filter

TABLE 1

Inspections of Charge and Products

	Charge	De-asphalted Oil	Dewaxed Oil	Wax	Asphalt
Gravity, API	22.5	23.2	22.0	.....	.....
Gravity, specific	.....	.....	.....	0.918	1.06
Pour point, ASTM	75	80	—10	.....	.....
Color, Tag-Robinson	.....	5 D.D.*	8 D.D.*	.....	.....
Viscosity, SUV at 130° F.	598	493	642	.....	.....
Viscosity, SUV at 210° F.	106	94	105	72	.....
Flash point, ° F.	440	440	440	.....	.....
Melting point, ° F.	.....	.....	.....	137	.....
Penetration (ASTM) at 77° F.	.....	.....	.....	.....	8
Softening point (ASTM) °F.	.....	.....	.....	.....	170

*Double-dilute; diluted 85:15 with water-white naphtha, and then diluted again in same manner.

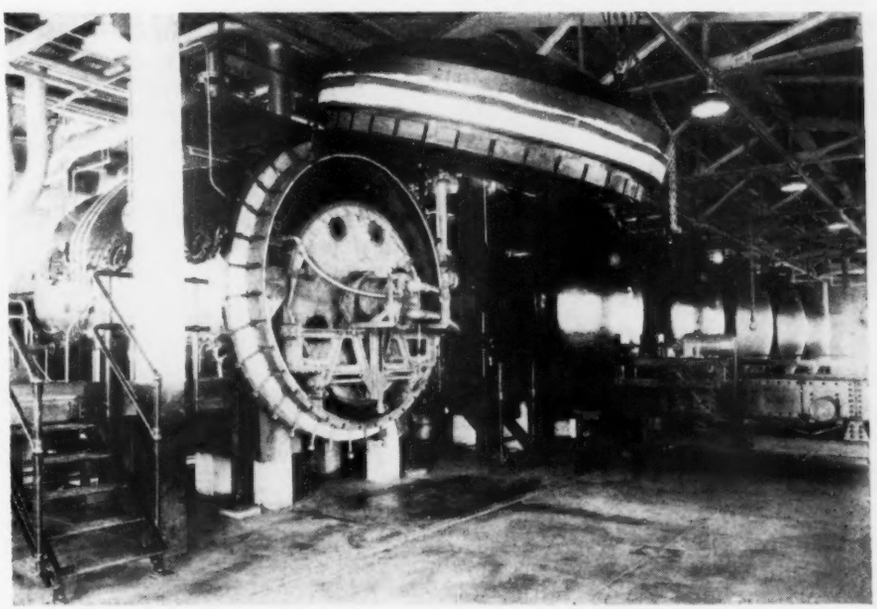


Fig. 5. Rotary wax filter assembly

rates as high as 3.5 gal. to 4.0 gal. of dewaxed oil per square foot (based on total filter area) have been maintained for several days.

Chilling

During the period from the latter part of November to April 1, the plant was operated at 60 to 70 per cent of capacity because of foaming difficulties in the chillers. Although the vapor velocities were thought to be adequately low at the time of design, it was later found that even lower velocities were required to prevent foaming. To correct this condition, it was necessary to install an additional trap and make slight adjustments in the chilling cycle. Since all low-temperature equipment (below 0° F.) is of nickel steel, there was some delay in obtaining material to make this change. It was made during the week of April 6, and the plant has now been operated at full capacity.

Capacity

The plant has been operating for a period of about six months, and during most of that time the capacity was approximately 60 per cent of design until the changes in the chilling system were made last month. Since that time it has been brought up to full capacity, although insufficient time has elapsed to present operating data at capacity. Only minor changes in operating conditions have been necessary in obtaining the design capacity, so that the general results of the six months of lower-rate operation can be considered typical of present conditions. The propane ratios and the temperatures throughout the system are close to those for which the plant was designed, and all units of the plant are now operating as expected. No definite figure is available as to the operating cost; but, in view of the close approach to design conditions, it is believed that it will approximate the figure anticipated.

Quality

The pour point of the dewaxed oil has been —10° F. from the start of operation, and there has been no difficulty in this respect — except in those rare instances where leaks were found in the piping and welds of the filter drum itself. Typical inspections of the charging stocks and products from the plant are presented in Table 1.

The most important item in the quality of the oil from a dewaxing plant is obviously the pour point; and during the entire operating period of this plant, there has been only one 8-hour composite sample which was reported higher than —10° F. pour point, and that was —5° F. Even this, however, is not the only criterion of the thoroughness of the dewaxing operation. The oil in this plant is subsequently solvent-extracted to about 100 viscosity index, with a rise in pour point of about 5° F. under normal conditions and 10° F. under the most adverse conditions. The treated long residuum is then distilled to produce several cuts, the lightest having a viscosity of 110, Saybolt Universal, at 100° F., and the pour test of all cuts is normally 0 or —5° F. At infrequent intervals the lightest cut may show a pour test of +5° F. Of even greater significance than this is the fact that all cuts show no tendency to cloud when held at 20° F. indefinitely.

The color of the dewaxed oil is also deserving of some attention. The dark residuum is de-asphalted to remove about 3.5 per cent of 170-melting-point asphalt, and then has a color of 5 D.D. Tag-Robinson. After dewaxing, the color has improved to 8 D.D., and the color is noticeably improved over that of the de-asphalted oil and the cast is very good. The concentration of color bodies in the wax may be noted from its very dark color.

Yields

Average-yield figures over long periods of time show 78.0 per cent dewaxed oil, 18.5 per cent wax, and 3.5 per cent asphalt. Based on de-asphalted oil, the dewaxing yield has been maintained at 81 per cent. For some consecutive days, yields as high as 85 per cent have been obtained, and it is anticipated that a yield of 83 per cent will be normal after the next few weeks of operation.

The wax produced has a melting point of 137° F.; and frequently shows an oil content, determined analytically, of less than 30 per cent. Although the plant was not designed for washing, some preliminary experiments have been made with sprays in the filter, which indicate that the oil content may be reduced easily to about 15 to 20 per cent by this simple method. As indicated above, some small amount of dark-colored semi-asphaltic bodies is removed in the dewaxing operation, so that it would be expected that the actual yield might be slightly lower than that calculated from the wax contents of the charge stock and the final wax cake. The actual yield of 81 per cent over a long period is 4 per cent higher than that used as a basis for design of the plant.

Conclusions

The foregoing discussion has shown that a propane dewaxing plant has been in operation for about six months and has demonstrated two very important points: 1, that commercial continuous filtration in propane solution is entirely satisfactory; and, 2, that it is possible, with propane, to dewax a Mid-Continent long residuum so thoroughly that the dewaxed oil may be solvent-treated and distilled to produce oils of satisfactory pour and cloud test.

Although the authors have been given the privilege of presenting the information on the operation of this plant, it should be pointed out that the solution of the two major problems was due to the co-operative spirit of all concerned with the project. Especially is acknowledgment due to the entire operating personnel of the Shell Petroleum Corp. lubricating-oil department, and to J. T. Dickinson of The M. W. Kellogg Co., who was largely responsible for working out problems connected with filter operations, as well as other problems involved in the plant as a whole.

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ADVERTISING PAGE REMOVED

Personal Attention Boosts Accessory Sales

The Great Advantage the Local Oil Company Has in Handling the Dealer Trade Lies in the Ability to Give Personal Assistance

By **JOHN W. THOMPSON**
N. P. N. Staff Writer

THE jobber may well take notice of the operating methods of certain marketers who have practically become wholesalers of accessories as well as petroleum, supplying their dealers with products they need and working with them to see that the goods, once bought, are sold, and then restocked.

Success of this type of business has resulted largely from the fact that the jobber operating in a concentrated area is in a position to give personal attention and assistance to his outlets.

Dealers are not at all anxious to spend their spare time interviewing and listening to the many accessory salesmen who are anxious to sell a supply of goods and then probably not be seen again for weeks. Oil jobbers who have put into operation a co-operative plan of assisting their dealers have found that the men at their outlets highly approve the idea of buying all their products from one source. They also favor the close contact and help that the jobber gives each dealer in working out a stock of products which do not overload the dealer's shelves, and in offering ideas for moving those products.

Then too, the independent jobber with such a set-up is in a position to offer his dealers a more flexible and personally arranged financial plan for payment of the stock he buys. The jobber, because of his limited number of outlets, can make frequent contacts with the dealers and supply their wants on short notice, all of which means a smaller stock for the dealer to carry. The jobbers who follow this plan have practically all placed in service a small panel truck or unit which is equipped to carry complete stocks of all types of accessories, including tires and batteries. This truck makes the rounds of all dealers regularly, and the driver is the salesman who assists the dealer in replenishing his stock and offering ideas for displaying and selling the different products.

That is the jobber's opportunity to control his uncontrolled outlets. He has the advantage in serving a relatively small number of dealers, so that he can offer them a personalized service on all accessories and petroleum products that cannot be touched by an automotive jobber.

Some concrete examples will serve to show how the independent oil marketer is "controlling" his dealers.

An excellent specimen is the Pearl Oil Co. of Bowling Green, Ohio. This company has no company operated stations, but has 13 dealer stations which handle the jobber's complete line of petroleum products, tires, batteries, and accessories. In addition it has seven dealers whom it supplies with tires, batteries, and accessories, but not petroleum products.

Head man L. H. Alexander will tell you that the secret of selling through dealers is in the assistance you offer them. Many a passive dealer can be changed into an active one simply by a system of personal co-operation and contact which the independent jobber is in an ideal position to give. As proof of that statement Mr. Alexander will bring out evidence that shows such a plan enabled him to sell one tire for every 500 gallons of gasoline, or just double his sales before the plan went into effect.

One man devotes his entire time to dealers and their sale of tires, batteries and accessories. He sees every dealer at least once every other week, offering suggestions for arranging merchandise, setting up window displays, seeing that the dealer's stocks are filled, and in many cases helps the dealer to close a difficult sale.

The company maintains a

This panel truck, equipped with a full line of accessories, makes regular calls at all retail outlets of the Silkworth Oil Co., of Ypsilanti, Mich.

Accessory Line of Quality Oil Co., Winston Salem, N. C.

Offered Dealers for Their Own Use and for Resale

Air gauge
Anti-freeze
Anti-door rattles
Auto bulbs
Auto fuses

Batteries
Battery jar fillers
Bon Ami powder
Bon Ami cakes
Brake dressing
Brake fluid
Brake fluid hyd.
Brake lining
Brush—fender
Brush—wheel
Brush—white wash
Brooms—house
Brooms—scrub
Brooms—warehouse
Brooms—wisp
Bulbs—house—25-W
40-W
50-W
75-W
100-W
150-W
Bumper guards

Cables
Caps—gas tanks
Cement—top patch
Cement—rubber
Cement—tubes
Chains
Chamois
Cleaner & Polish
Cloth—polishing
Cloth—waxed
Coil points
Condensers
Connector — windshield heaters No. 125
Coupler—Alemite
Coupler—Zerk point
Covers—seat

Defroster—windshield

Fan belts
Flashlight
Filler—tire cut
Fittings—Zerk
Fittings—Alemite
Floats—Alc. testers
Fuses—House 30 Amp.
Gasket—formers
Handy pads
Heaters
Holders—toilet paper set
Ignition points
Ignition sets
Jack—Hyd.
Lamps—trouble
Lamps—clearance
Lenses
License—plate frame
License—plate fasteners
Measure—oil 1 qt.
Mirror—Non glare
Oil—penetrating
Oilers—plews
Paint—tire
Paint—white tire
Patches—tire
Plyers
Polish
Prestone—1 gal.
Punch—vacuum
Radiator hose
Radiator cleaner
Radiator weld—liquid
Repair kit—small
Repair kit—large
Retainers
Rivets
Rotors
Rejuvenator rubber
Sani Flush
Seal—lean—cards—caps
Sockets
Socket—Wrench Sets

Sets—Wrench
Shellac
Shock absorber fluid
Shock absorber link
Shoes—blow outs
Soap—auto
Soap—liquid
Soap—lava
Solder seal—large
Spark plugs
Spindle bolts—Chev.
Spindle bolts—Ford A
Sponges
Straps—battery
Springs—starter
Stove bolts and washers

Tape—large
Tape—small
Tar & road remover
Thermoil
Tires
Tool—Alemite
Tow—rope No. 5033
Top dressing
Top finish
Top putty
Touch-up enamel
Tow-rope
Transmission—lining

Unionall
Caps
Coats—shop
Jackets
Pants
Shirts

Valve caps
Valve inside
Valve Tool
Valve stems

Wax
Weather strips
Windshield blades
Wrench—hub cap
Wrench—ex tire rim

warehouse at Bowling Green where a complete line of products are stocked. Mr. Alexander reports that dealers jumped at the chance of obtaining all their merchandise from one source. In the first place the dealer need carry only a nominal stock, for if he runs short a call to the warehouse will bring immediate delivery. Such emergency deliveries are made without charge in town. Outside of town free emergency delivery is made if a minimum of $25 worth of merchandise is ordered.

The Pearl Oil Co. also offers reputable dealers the benefit of a consignment agreement. This entitles the dealer to a representative stock of merchandise on consignment with the stipulation that whenever an item is sold from this stock the dealer must purchase a similar item from the warehouse within 10 days to replace it.

The dealer contact man, in his calls on dealers who have signed this agreement, inventories their stock and any shortage is corrected at that time.

The company reports the plan so successful that it has taken on dealers who have been handling competitive lines of tires and batteries, and have also been able to line up some additional outlets for petroleum products due to the co-operative attitude shown toward its dealers.

In the case of the Pearl Oil Co. the chain store tax and social security legislation is not a consideration. This company's outlets are "controlled" simply through a spirit of co-operation and helpfulness—one of the finest and most productive forms of control, and one which no chain store tax can touch. Who is better qualified to offer this form of dealer service than the independent oil jobber with an organization that can be flexed to meet individual problems and to make personal and helpful contacts among its outlets.

A similar plan to dealer co-operation is employed by the Quality Oil Co. of Winston-Salem, North Carolina. This jobber serves 200 outlets in four counties. About 20 stations are company-owned or operated.

Each day a small panel truck leaves the company's warehouse loaded with tires, batteries and accessories. The truck makes the rounds of all outlets to keep them stocked with the best moving items. The dealers buy directly from the company that supplies them with petroleum.

This close contact with his supplying company on all items of resale enables the dealer to tie in with the jobber's merchandising efforts. He is given information on the jobber's plan of advertising so that he may cash in on the demand which the advertising will create, without any expense to himself. The company frequently promotes the sale of "leader" items and puts special advertising effort behind it. The dealer is informed of this so that he may feature the same item at the point of sale.

Where possible the accessory truck carries two qualities of each item, one for rural and one for city trade. Dealers are continually being assisted in properly displaying and selling their merchandise, to the end that a bond has been forged between dealer and oil company which competitive supply salesmen find tamper-proof. A list of items sold its dealers by the Quality Oil Co. accompanies this article.

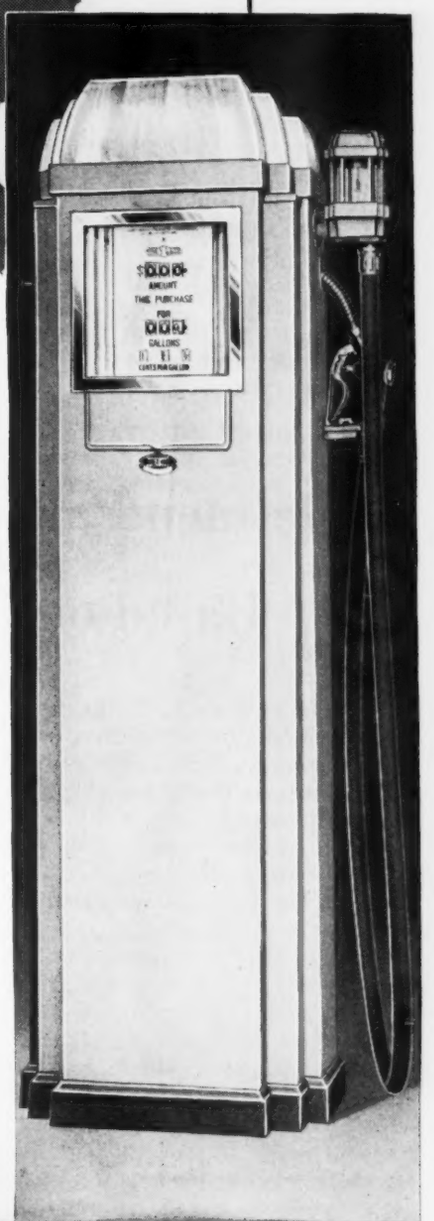
A similar type of dealer co-operative plan is employed by the Silkworth Oil Co. of Ypsilanti, Mich. This jobber also serves his dealers with tires, batteries, and a complete line of accessories from a panel truck which makes regularly scheduled trips to all retail outlets. The Silkworth company also

NORTH • EAST • SOUTH • WEST

GO MODERN

WITH SOUTHWEST GASOLINE BUSINESS MACHINES

Build Profits!



The Southwest Pump Company has designed, manufactured and sold dependable, efficient pumps *for twenty years!* Sales, slowly but steadily, spread into ever-widening territories. Then, two years ago Southwest Pump Company "scooped" the industry with a daring new design — thrillingly beautiful — highly efficient — a real profit-builder, called the *Southwest Gasoline Business Machine.* The news got about — almost overnight this new pump was put in service from coast to coast and from Canada to the Gulf.

Operators everywhere are enthusiastic about the dependable performance and the attractive appearance of the volume-building *Southwest Gasoline Business Machines.* Several models are available for your selection. You owe it to your business to get the facts about these *modern* pumps . . . learn how they'll help build profits for you!

WRITE TODAY!

SOUTHWEST PUMP CO.

MANUFACTURERS AND DESIGNERS • SINCE 1916

BONHAM — TEXAS

SOUTHWEST PUMP COMPANY,
Bonham, Texas, Dept. N. 536

I am interested in PROFITS. Tell me about SOUTHWEST PUMPS.

*Name*_____

*Address*_____

*City*_____ *State*_____

maintains a large accessory display store in Ypsilanti which connects with one of its stations.

In Peoria, Ill., the Sweney Gasoline and Oil Co. has just recently seen the need for this personalized type of dealer cooperation. The company with 160 outlets in the state, took on a line of tires last October. One dealer, located a considerable distance from Peoria, who stocked the tires, had an opportunity on one occasion to sell a tire of size which he did not have in stock. To have waited for shipment from Peoria would have meant the loss of the sale. So, rather than lose out entirely he went to a tire dealer in his town who had the size he wanted and split the profit margin rather than lose the customer.

To overcome this problem the Sweney company hired a man who will devote his entire time to tire sales, and also to other accessories when the company takes them on. This man travels the territory in a coupe calling on the company outlets and assisting them in keeping their stocks sufficiently varied as to sizes. Recently the company purchased a trailer which this man will pull on the rear of his car. The trailer will be stocked with the accessories which the company offers, and close contact with the outlet will eliminate the necessity of turning down sales because of lack of proper stocks.

The independent oil jobber has an opportunity that cannot be approached by competition, if he will but take advantage of it. His localized distribution, his personalized service to all outlets, and his standing and acquaintance in the community, embody dealer control assets that cannot be approached by larger and more cumbersome distributors. Chain store taxes may prove to be a blessing in disguise to the independent oil marketer.

Salesmen Paid Monthly Bonus Based on Gross Sales

A LA GRANGE, Illinois BONUS plan enabling all salesmen in a station to increase their pay 10 per cent each month upon the making of a station quota is in effect at Brewer Brothers Service Stations, La Grange, Illinois.

Each of the company's four stations is given a quota at the beginning of the month. The quota is one flat figure, in dollars, representing the gross sales on all merchandise and service, excepting kerosine and gasoline that are anticipated for the month.

Gasoline and kerosine gross sales are not included as the company regards these products, for quota purposes, as the "trade pullers" attracting customers into the stations and creating sales opportunities for motor oil, lubrication service, tires, batteries and accessories. The company believes that through this relationship salesmen in striving to make a quota will not neglect the gasoline department that brings in customers.

In setting quotas three factors are taken into consideration by Fred L. Brewer, head of the company. These are the ability of the men, weather, and general business conditions. All factors he considers intangible. For practical purposes he considers weather as generally unchanged for a given month year after year. There is no barometer used to gauge business conditions. The ability of the men he considers improved month by month. So, the general figure of 10 per cent over gross sales for the same month of the previous year is taken, and this determines the quota.

All salesmen are paid a flat salary. There is no commission paid on specified merchandise or service sales, aside from awards made in special drives, such as cash prizes paid on spring motor oil sales. If a station makes the quota then all salesmen at that station are rewarded by a 10 per cent addition to their salary.

The bonus plan became operative a year ago. Previously the company paid a bonus based on an elaborate system of a quota for each salesman, broken down into the various items sold at the station.

Mr. Brewer believes the present bonus plan far more satisfactory, to the individual salesmen and to the company. A considerable amount of office detail is eliminated. Instead of trying to guess a month in advance how many tires, batteries and other items each man should sell, the figuring of a quota on gross sales is much more simple. All that is required is the gross sales of each station for the month of the previous year. The only addition is the 10 per cent, and the quota for each station is determined.

THE present bonus plan, Mr. Brewer reports, builds cooperation into the selling efforts of all salesmen, as they are working together to make a quota not for themselves individually but for the station.

Under the former system each salesman was striving to make his own particular quota. A salesman working on a tire prospect wanted to start and complete the sale to get the credit. In case the prospect came in to buy tires when the salesman who started the job was off duty the company had to decide who made the sale—the man who opened the deal or the man who mounted the tires.

Also, there was no incentive for the men to co-operate with each other in closing deals. Now salesmen are quite willing to have the aid of fellow salesmen when they find they cannot get the order but that the other fellow may be able to swing the deal. No matter who completes the sale the credit goes to the station, so everyone contributes towards building gross sales against the quota.

Since the plan became operative there was one month, last fall, when every station made its quota. Several times two stations reached the goal, and in every month at least one station reached its quota.

A Station's 1935 Record—

Motor Oil Sales Up 123%

Lubrication Service 566%

By E. L. BARRINGER
N. P. N. Staff Writer

QUINCY, Ill. LUBRICATION and motor oil sales were increased materially last year at a station of the Richardson Lubricating Co., Quincy, Ill., through the time tested sales method of asking motorists to buy at the station, and then offering superior service in handling the customer's automobile.

The station is operated by the Grimmer brothers, Sam and Arlo, who took over the station Oct. 15, 1934. Lubricant sales began to advance at once by application of personal selling methods, and a further gain is anticipated for this year.

The station is in a neighborhood section in the east end of Quincy, at Broadway and 24th St., and one of the streets carries a considerable volume of tourist traffic. The building is a modern, neat structure, with paved drives, a one-lift lubritorium, and is kept exceedingly clean. Accessories are not sold, the station depending entirely for business on lubrication service, motor oil, and gasoline.

To the Grimmer brothers the whole city of Quincy is their normal marketing territory. Lubrication and motor oil sales are their hobby, and they do not hesitate to enter any part of the city to solicit business.

A "new customer" is a resident motorist who has come to the station for one lubrication job. If the customer does not return within several weeks a personal call is made to solicit further business.

After a "new customer" has been in the station for two lubrication jobs the name is entered in the "Prospect and Customer" list. The list carries each customer on a separate card, with the customary information of name and address, data on the automobile, and the record of lubricants and service purchased. Tabs are on the top of cards to indicate follow-up calls. Personal calls are made on delinquent customers, but where the motorist is well known the reminder call may be made on the telephone.

New customers are found by being alert while on the drives, observing the automobiles passing on the streets. Whenever a strange automobile is seen around for several days the sales machinery is set in motion to check up on whether the car owner is a prospect. If the automobile belongs to a new resident then a solicitation is made for the lubrication and motor oil business.

A motorist moved to Quincy from Chicago was converted into a customer through such observation from the drive. The automobile had been observed passing the station regularly for several days. Then the driver dropped in to purchase 15 gallons of gasoline. Instead of making the gasoline sale and letting the transaction close the customer was investigated. Two days after the gasoline purchase a personal call at the motorist's office resulted in a coupon book sale.

Observation of passing traffic from the station drives also results in some gasoline sales. Sam Grimmer one day watched a motorist parked along the curb opposite the station strug-

This Quincy service station last year made tremendous increases in lubrication service and motor oil sales through personal selling methods

gling with a road map. As a matter of courtesy he went to the motorist, asked if he could be of assistance. The motorist was checking on a highway out of Quincy. Mr. Grimmer was quite familiar with that particular highway and offered detailed information. The motorist reciprocated by pulling over to the station. The sale was two quarts of oil, and 17 gallons of gasoline.

Servicing the customer's car is part of the station's sales plan. After a thorough chassis and motor block lubrication job, including oiling door and hood hinges, checking for squeaks, and inspection of tires and the battery, the car is put through a cleaning process. Upholstery and floors are vacuum cleaned, windows washed inside and out, and the upholstery spotted with cleaners naphtha.

The car is turned over to the customer all cleaned, and free from squeaks, as part of the station's showmanship in selling lubrication service.. The cleaning job is not a substitute for thorough lubrication work, but the brothers believe that the customer is impressed upon receiving a clean car, and that a good cleaning job conveys the idea that similar high standards prevail when operators handle the grease equipment.

The Grimmer brothers have found a method of overcoming the objection of a prospective customer who wants to spread his petroleum purchases over a number of service stations. The selling to such prospects is done on the theory of "give us your lubrication and motor oil business, and buy your gasoline wherever you want to."

A change in allocating work is being made this year by the brothers. Last year they worked in the station, and each used time off to solicit outside the station. This year one brother is to concentrate on selling in the station, while the other brother is to handle all the outside sales work.

Although the station has only one lubrication bay the drives are used during rush hours in seasonable weather. When a customer has a car waiting to get on the lift the job underway is completed on the lift, then the car is driven outside for the cleaning service.

The station's sales record of 1935 shows the results of sales effort. While gasoline volume in 1935 increased 9.4 per cent over that in 1934, lubrication service sales increased 566.3 per cent, motor oil sales 123.1 per cent. The tremendous increase of lubrication service and motor oil sales over gasoline indicates that the sales work of the Grimmer brothers in soliciting business, following up old customers and the showmanship in handling customer's cars in the station was productive.

Station Leasing Turns Jobber's Attention to Wholesaling

CEDAR RAPIDS, Iowa

SINCE leasing his service stations Frank Whitney, Home Oil & Gas Co., Cedar Rapids, Iowa, has taken up the slack of lessened retail activity by concentrating on the wholesale end of the business.

The company formerly had nine company owned service stations and three bulk stations, in and around Cedar Rapids. All stations, except the Cedar Rapids bulk plant, have been leased, and the company now is pushing the sale of burners and fuel oils, and the wholesaling of accessories.

For several years Mr. Whitney has marketed burners and fuel oils, so the transition from retailing at service stations has led to a more intensive working of this market. The company maintains its own installation and service department on burners.

Mr. Whitney follows leads for residential and commercial burner installations. Tips on prospective customers are obtained from a number of sources, such as those received from friends, building permit records at the city hall, and each day the company receives a commercial reporting service on new construction and remodeling work.

Development of the wholesale accessory part of the company's business came from a previous connection with a wholesale distributor. However, if the connection had not been made previously Mr. Whitney believes his company would have gone into wholesale accessories, starting from scratch.

In wholesaling accessories the company operates over 11 counties. One panel body truck is in service now, and another is to be started soon. Marketing experience with the first truck has led to developing a standard inventory carried in the truck.

The salesmen on the trucks have exclusive territory, calling on garage, automotive, and service station accounts.

Inventory carried on a truck comes to between $250 and $300, and is the initial purchase of the salesmen. On each trip back to the warehouse the salesman replenishes his stock, bringing it back to the standard inventory, and pays cash for the merchandise. The replenishing of stock on the truck is done from the duplicates of sales in the order book.

The salesman, in turn, transacts his business with resale accounts on a cash basis, delivering merchandise from the truck upon taking the order.

Cincinnati Club Picnics Again

CINCINNATI, O., May 14.—The Miami Boat Club at Miamiville, O., has again been reserved for the annual picnic and frolic of the Cincinnati Oil Club for June 18. About 200 oil men attend this picnic every year, according to Guy Peters, president, Oil-Kraft, Inc. here.

All oil men, regardless of company connections, are invited. Reservations at $5 should be made with Roger E. Hannaford, 3330 Beekman St., Cincinnati.

INTERNATIONALIZE
And You Will Lubricate for Safety

The "Lubrication For Safety" Campaign can readily add 200 Million Dollars in revenue to the oil industry this year.

Your part of this huge increase can only be obtained by cooperating wholeheartedly in the movement.

Millions of Dollars are being spent to educate the public to a realization of what proper lubrication means—to make them insist upon special lubricants being used where such is the requirement, and to influence the public to have their cars lubricated with greater frequency.

This national educational movement can be of tremendous benefit to your business.

International Helps You Cash In

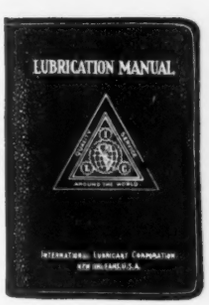
International Lubricant Corporation have published a 78 page loose-leaf lubrication manual to help you get your share of this big increase in business.

The manual explains the many different types of oils and greases. It tells why and how they are made. It explains the uses of each different type and how it should be applied.

It is not confined to automobiles but covers trucks, tractors, Diesel Engines, compressors, turbines, electric motors, generators, ice machines and steam engines.

It is a book every enterprising jobber should have for constant reference. It enables you to sell with a full knowledge of the facts.

Lubrication, based on the standards set forth in this manual is Lubrication for Safety and if your salesmen use it you will get more than your share of benefits from the "Lubrication For Safety" Campaign.



The Lubrication Manual is not for sale. It cost us thousands of dollars to produce but it is furnished free to all of our good customers who write for it on their letterhead.

If you are one of our customers write for your copy now. If you are not one of our customers, why not let one of our salesmen show you the manual and explain to you International service.

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NEW ORLEANS LOUISIANA

Wisconsin Association Seeks Jobber Margin Equality

By E. L. Barringer
N. P. N. Staff Writer

MADISON, May 14

JOBBER margins, consumer co-operatives, and the state treasury department's new regulation on sales slips were main points of discussion among some 200 oil men attending the May 13 meeting in Madison of the Wisconsin Petroleum Association.

Equality of jobber margins and major company marketing costs was announced as a jobber margin policy in a resolution urging jobbers not to renew or sign new contracts, regardless of the supplier, until an "honest effort" is made to provide a margin commensurate with major company actual marketing costs.

Specific margins or spreads were not mentioned in the resolution. Jobbers and retailers are not asking for a longer margin than competitors, but for equality so that neither independents or majors will have a financial advantage in marketing.

That part of the Wisconsin association resolution urging jobbers not to sign contracts was explained by Roy L. Brecke, association secretary, as being the means of obtaining margin equality. When a jobber signs a contract, Mr. Brecke explained, that jobber has no means of protesting his margin, and suppliers without jobber contracts would be more willing to consider equality.

The resolution also advised jobbers that elaborate advertising campaigns offered by suppliers to jobbers on contract were "bait," and that since suppliers want to move gasoline few suppliers would withhold such advertising aids from jobbers regardless of signing of contracts.

Jobbers approved a questionnaire to determine how many association members are under contract at the present time.

After adoption of the resolution Walter Wingrove, association president and head of the Wingrove Oil Co., Sheboygan, told jobbers he was willing to compete on a 5.5 cent equitable margin but admitted that he could not operate on a 5.5-cent spread when competitors have a 7, 8, or 9-cent margin.

The movement for margin equality started at a meeting of Wisconsin association officials in April. At this meeting a resolution was adopted urging jobbers to withhold contract signing pending the May 13 statewide meeting.

Discussion of private jobber brands came before the April meeting of officials but no action was taken. Although the subject was not discussed from the floor at the May 13 meeting, several groups of jobbers are working on this movement.

Rev. Richard E. Evans, Milwaukee minister and past national and state chaplain of the American Legion, spoke on the subject, "I Believe in True Consumer Co-operation". He stressed the danger of deviating from the established channels of commerce.

Of consumer co-operatives, Rev. Evans said, "the fields of science, discovery and invention have opened tremendous areas of development along every line and the future is beckoning to our economic and commercial generation with inviting prospects.

"You men of the oil industry certainly realize that. All the more reason why, then, we should co-operate with the producers, manufacturers, distributors and give these established agencies every incentive and every encouragement to turn out better products, yes, at better prices, and render more efficient service, — and the very last way we can do that is by entering into any so-called co-operative combine that would break the spirit and block the progress of men who are struggling to make this expansion possible."

The address by Reverend Evans provoked the manager of the Madison consumer oil co-operative to offer rebuttal.

The current depression and the World war were laid on the doorstep of the profit system, by the Madison co-op. manager, claiming co-operatives were for a better distribution of profits.

Christianity was not made in America, he continued, in rebuttal to Reverend Evans' statement that the co-operative idea comes from foreign lands that poured millions of persons into America to reap the benefits of the freedom and the opportunity under our system of business.

Following the oil convention Reverend Evans gave the same address over station WIBU, operated by the Fiore Coal & Oil Co., Madison.

Robert K. Henry, state treasurer, reported a gain of $390,878 in gasoline tax collections in the first four months of 1936 over the same period in 1935. Collections in first four months this year were $4,646,768.

In opening the convention President Walter Wingrove spoke in favor of the proposed code enabling the industry to meet and discuss its problems. He listed problems confronting the industry as follows:

Overbuilt condition of retailing.

Under-canopy rebating, which he said "if it continues is very apt to bring about a lowered general retail market."

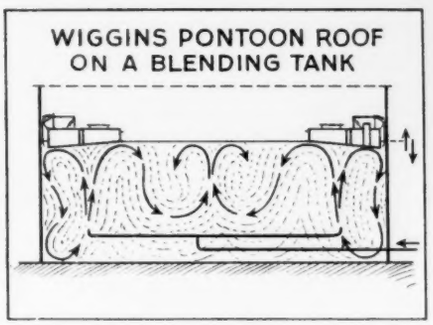
The relationship of wholesale and retail prices.

"If the jobbing business is to continue," said Mr. Wingrove, "some fair and equitable means must be found on which to base prices, both wholesale and retail.

"If our state government is to receive a fair amount of revenue in the form of income taxes, which they have a right to expect on such a large volume of business which the oil industry represents in this state, I would suggest that they interest themselves in this matter."

Mr. Wingrove then cited Standard Oil Co. of Indiana and Wadhams Oil Co. gallonage figures, and non-payment of state income taxes while paying federal income taxes, large salaries to executives and dividends to stockholders.

An Ideal Set-up for Gasoline BLENDING OPERATIONS



Systems:

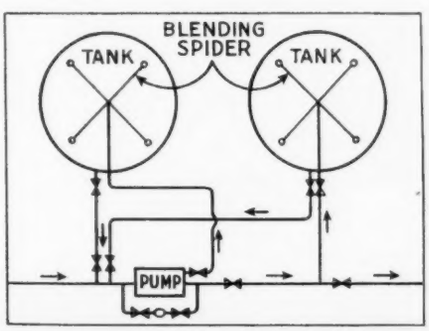
In blending gasoline, thorough and accurate mixing is an important essential. Several methods of doing this are available, varying more or less in principle. The recirculating method however, is said to be one of the most economical, simplest, and best in use. Its distinguishing feature is a pipe spider equipped with nozzles that direct the incoming flow in jets up through the liquid in the tank.

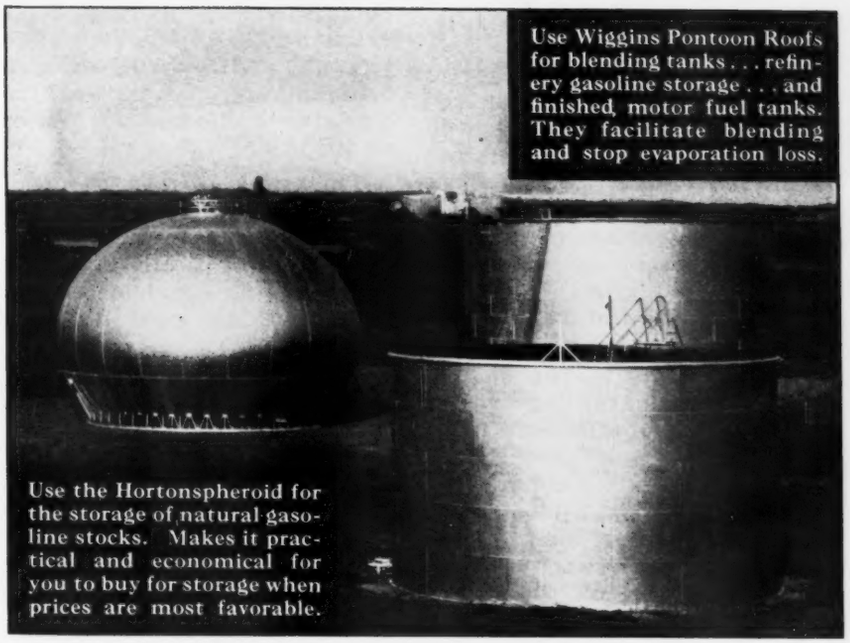
Tanks equipped with Wiggins Pontoon Roofs are particularly well suited for use with the recirculating method of blending for the following reasons:

1. *More positive circulation.* Instead of merely rising to surface, jets of incoming liquid strike the underside of the floating roof and are deflected, causing circulation through entire tank. Reports indicate worth-while reductions in pumping time necessary.

2. *Suitable for any size batch.* Regardless of how full the tank may be, the Pontoon Roof always rides on the surface to promote better and faster circulation.

3. *Reduces vaporization.* Jets rising to top of a free liquid surface tend to cause bubbling. There is no vapor space under a Wiggins Pontoon Roof to permit this.




Use Wiggins Pontoon Roofs for blending tanks . . . refinery gasoline storage . . . and finished motor fuel tanks. They facilitate blending and stop evaporation loss.
Use the Hortonspheroid for the storage of natural gasoline stocks. Makes it practical and economical for you to buy for storage when prices are most favorable.

THE blending of natural gasoline with refinery gasoline by marketers to produce a superior motor fuel has become a common practice. Companies that do gasoline blending, however, agree that this is a place where scientific methods and highest accuracy pay handsome dividends. To protect the good name of blended motor fuels as a whole, the Natural Gasoline Association of America has issued detailed recommendations on a great many of the important points to be considered. Various suppliers of blending ingredients are also insistent that definite standards be observed.

Yet from a physical standpoint, adherence to best practices involves no hardships at all. If you are contemplating new or additional blending facilities, you will find in the Horton line specially designed tanks which will make your operations simpler . . . easier . . . more efficient . . . and more economical.

The Wiggins Pontoon Roof offers definite advantages (see diagram at left) when used on any blending tank in addition to its well-known ability to reduce evaporation losses and to minimize fire hazard. The Hortonspheroid is particularly well suited for the storage of grades of natural gasoline most widely used for blending purposes. If prolonged storage of refinery gasoline stock is anticipated, Wiggins Breather Roof Tanks frequently represent the most profitable investment possible. Wiggins Balloons, also, can often be used to an advantage at blending plants in connection with cone or breather roof tanks.

Companies interested in working out the most practical and economical arrangement of tanks for blending purposes are invited to consult our engineers.

Other products for the oil industry regularly fabricated in our shops include steel storage tanks, elevated water storage tanks, bubble towers, condenser boxes, smokestacks and other steel plate-work. Three plants insure prompt delivery. Experienced field erection crews always at your service.

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Cleveland	2206 Rockefeller Bldg.	Detroit	1513 Lafayette Bldg.
Houston	2919 Main Street	Birmingham	1534 North 50th Street
Tulsa	1607 Thompson Bldg.	Dallas	1439 Dallas Athletic Club
New York	3345-165 Broadway Bldg.	San Francisco	1060 Rialto Bldg.
Philadelphia	1614-1700 Walnut St. Bldg.	Los Angeles	1422 Wm. Fox Bldg.
Chicago	2125 Old Colony Bldg.	Havana	402 Edificio Abreu

Plants at BIRMINGHAM, CHICAGO and GREENVILLE, PA.

Supreme Court Decision

(*Continued from page* 20)

tended for interstate sale and shipment, and actually so sold and shipped, affects interstate commerce indirectly, the effect does not become direct by multiplying the tonnage of increasing the number of men employed or adding to the expense or complexes of the business, or by all combined."

Applying this to the oil industry—it apparently means that if over-production from one oil well doesn't "directly affect" interstate commerce, neither does over-production from a thousand or more wells.

All in all, the court's views cast much doubt on the arguments of those in the oil industry who advocated federal control of oil production under the "quotas in commerce" plan.

The court subtly chides Congress for enacting the Guffey law after it had held, invalidating the NIRA, that the federal government has no power to regulate labor conditions in local business. .

"A reading of the entire 'NIRA' opinion makes it clear," the court added, "what we now declare—that the want of power on the part of the federal government is the same whether the wages, hours of service, and working conditions, and the bargaining about them, are related to production before interstate commerce has begun, or to sale and distribution after it has ended."

If the court had said nothing more than that, it would be sufficient to forecast the invalidation of the Wagner labor disputes law which attempts to regulate labor relations of oil producers, refiners and other local businesses.

That statement is also grounds for belief that the court would void any attempt by the federal government, as was done under the oil code, to regulate wages and hours and other working conditions at filling stations.

Striking down the government's contention that acceptance of the coal code under the Guffey law was "voluntary" the court pointed out that tax was a "penalty" on those not accepting and that Section 14 the boycott provision prohibited governmental agencies, and contractors dealing with the government, from buying coal from a producer who had not "accepted the code."

The court termed the provision authorizing a portion of the coal producers to fix wage and hour standards binding on all producers as "legislative delegation in its most obnoxious form."

The court said regulation was a governmental function and that "in the very nature of things, one person may not be entrusted with the power to regulate the business of another, and especially of a competitor. And a statute which attempts to confer such power undertakes an intolerable and unconstitutional interference with personal liberty and private property."

Chief Justice Hughes, in his separate opinion, also denounced this legislative delegation of power.

But the three-judge minority opinion held that it was a valid delegation of power, with due standards set up.

Tells of the Days When Natural Gasoline was "Casinghead"

TULSA, May 16

NATURAL gasoline men of the younger school were entertained most engagingly, at the meeting of Natural Gasoline Association here, by the reminiscences of H. T. Ashton, head of Socony-Vacuum's Lubrite Division. He reviewed the development of the natural gasoline industry, and the methods, practices and experiences of the pioneers in that industry just following the turn of the century.

A pioneer himself in everything but years, Mr. Ashton spoke at length of the amusing, amazing, and near-tragic experiences of himself and colleagues, in developing methods for producing and handling a "wild" material the properties of which were then almost unknown. He was the originator of the term "natural gasoline" to apply to the volatile product which, under the previous title of casinghead gasoline, has developed a bad reputation because of various accidents caused by inexperienced and careless operators.

Mr. Ashton was also one of the moving spirits in the formation in 1921, of the Association of Casinghead Gasoline Manufacturers, the name being later changed to its present form. The new name for their product was adopted by these manufacturers. He related the experiences in those early days of dealers in motor fuels and how they spread propaganda against the use of gasoline with low initial distillation points, that is motor fuel containing natural gasoline. His presentation of the rather crude specifications for the seven grades of natural which were first adopted for the association's guidance was received with amusement by his audience.

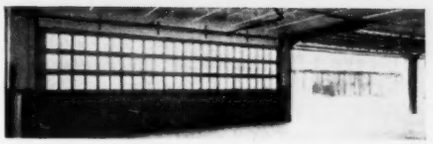
Gas royalties were based on Chicago tank wagon prices in those days, Mr. Ashton observed, a method which imposed a considerable handicap on the industry. With no relationship between these prices whatever, the difficulty of reaching an equitable basis was impossible, paving the way for the evolution of the present type of gas contract.

The speaker reviewed the extensive research program of the association over the years, and stressed the importance of the information obtained in this way to the refining and automotive industries.

Polymerization offers a means of utilizing large quantities of propane and butane, and of aiding in the extension of the market for natural gasoline volatility, he stated.

THE "OVERHEAD DOOR"
CAN BE USED FROM
WAREHOUSE TO FILLING STATION

BACKED BY A NATION-WIDE SALES and SERVICE ORGANIZATION



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and uniform with regards to octane number, distillation range, and color often acts as a handicap and detriment to your gallonage and proves itself unreliable to your customers.

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Berry's have specialized in all grades of gasoline for years past. We can make prompt shipments from our refineries and terminals listed below and would appreciate receiving your inquiries on any grades of gasoline you might desire.

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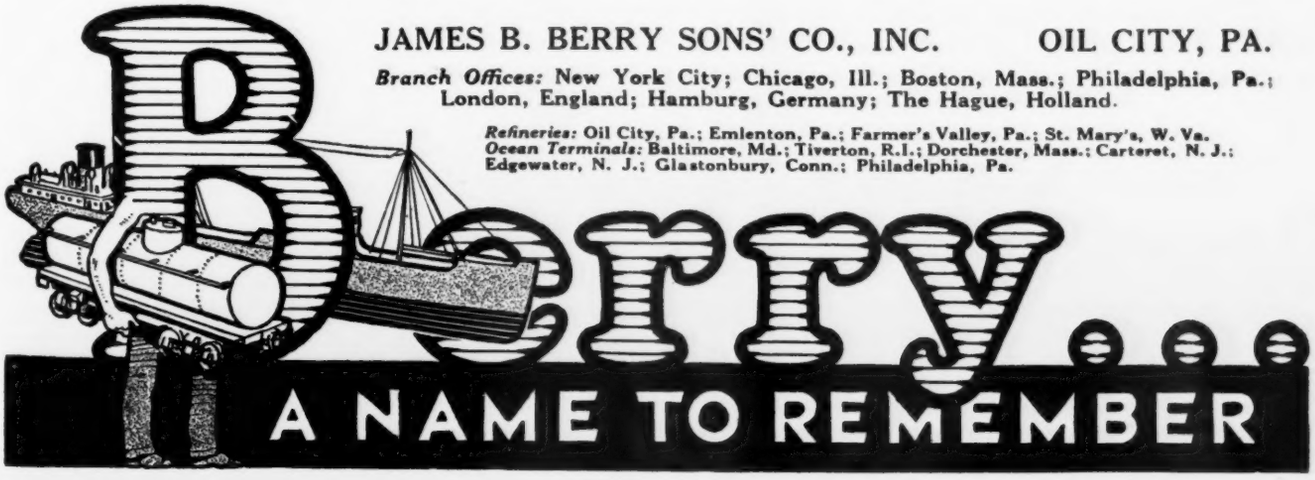
Refineries: Oil City, Pa.; Emlenton, Pa.; Farmer's Valley, Pa.; St. Mary's, W. Va.
Ocean Terminals: Baltimore, Md.; Tiverton, R.I.; Dorchester, Mass.; Carteret, N. J.; Edgewater, N. J.; Glastonbury, Conn.; Philadelphia, Pa.



• MARKETS •

CLEVELAND, May 18

DESPITE another week of favorable motoring weather in which consumption of gasoline continued at or near record levels, the outlook for oil markets remained uncertain the week ended May 16. Open market buying failed to keep pace with the increase in spot offerings, and prices were easier.

Lubricating oils were active. Pennsylvania neutral oils were advanced 0.5 cent. Mid-Continent neutrals were unsettled by low-priced offerings of some 200 viscosity, No. 3 color oil. Both Pennsylvania and Mid-Continent bright stock prices remained firm. Natural gasoline was more active.

The most unsettling market factor was the increase in offerings of third grade gasoline. More "no-octane" gasoline was coming out of the Rodessa field at prices ranging up to 0.625 cent under prices generally quoted on low octane. Offerings of East Texas low octane gasoline also were more plentiful.

The market was not absorbing these offerings and prices were lower both in the Mid-Continent and Mid-Western market. While the lower prices were confined to the low octane gasoline, it reflected the unsettled position of the market which was caused by excessive stocks of gasoline.

While stocks of motor fuel resumed a downward trend the first full week of May, despite higher crude runs, they were still nearly 9,000,000 barrels higher than they were a year ago at plants with 89.6 per cent of the country's refining capacity. Some observers believed that with refineries operating at around 77.6 per cent of capacity, stocks of gasoline could hardly be worked off without affecting market prices.

It has been pointed out that while gasoline consumption increased about 9 per cent during the first quarter of the year and probably will increase about 6 per cent the second quarter, as compared to the corresponding quarters last year, it can not be expected that the second half of 1936 will show up as well with the second half of 1935 when consumption was abnormally high.

Most observers apparently believe that a reduction in crude runs of about 10 per cent would give the industry a better chance of holding the gains made over the past year.

Increased interest of foreign buyers in the Gulf market was one of the more favorable market factors. A sale of between 30,000 and 40,000 barrels of bunker oil for Italian shipment was announced last week. A French refiner circulated an inquiry for a split cargo of U. S. Motor and 64-66, 375 e.p. gasoline for lifting this month. As the inquiry was still open at the end of the week it was thought that possibly the Roumanians had advanced their prices closer to the level of Gulf prices. If this should be the case, some of the excess gasoline would find a market outside the country.

With the Mid-Continent refined gasoline market unsettled by increased offerings, attention of traders turned to natural gasoline. The tightness of natural gasoline on the west coast has opened a new market for Mid-Continent natural. About 10 cars of Grade 26-70 natural were sold for the account of west coast refiners. Also there were at least two inquiries for cargo lots of natural for shipment to a Pacific Coast port.

The 0.5-cent increase in retail gasoline prices at Chicago was another favorable factor. Some distributors there have been obtaining their gasoline requirements from contract jobbers in tank wagon lots. With their costs increased by the retail advance, it was believed that these distributors now might buy in the open market.

Offerings of Rodessa gasoline blended with high octane natural gasoline and refined gasoline were directly responsible for the unsettled condition of the Mid-Western market. Buying was not sufficient to absorb all offerings in spite of favorable motoring weather.

Wholesale markets along the eastern seaboard generally were unchanged, but retail markets took a turn for the worse, mainly in New England. Retail gasoline prices were cut 1 cent a gallon in parts of Connecticut. No improvement was noted in retail prices in the Boston area.

On the whole stocks of gasoline at eastern seaboard terminals were reported in good shape despite the fact stocks are high over the country.

West coast markets were more stable and marketing authorities there were optimistic about the market outlook. It was believed in some quarters that the necessary adjustments had been made as to the stocks position of gasoline and crude. Some producers were asking a premium over field prices, thus cutting into offerings of cut-rate refined products.

Buyers were showing little interest in wax markets.

N. P.N. Gasoline Index

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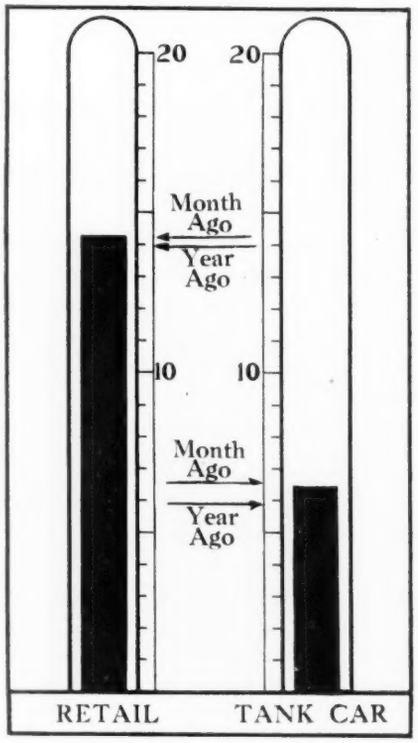

Retail index is an average of 50 cities, ex-tax, and tank car is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following price in cents per gallon:

	Retail	Tank Car
May 18	14.29	6.40
Month ago	14.25	6.54
Year ago	13.95	5.95

Mid-Continent

Natural Continues Active

TULSA, May 16

LAST year California natural gasoline was being supplied to east coast refiners in competition with Mid-Continent natural. Scarcity of natural gasoline on the west coast this spring has reversed the situation.

Tightness of California natural supplies has been responsible for increased inquiry and business for Mid-Continent natural gasoline. At least two inquiries for cargo lots of natural still are outstanding in the Mid-Continent. Increased business both for east and west coast shipment has relieved the cargo situation at the Gulf.

Inquiries also have been received in the Mid-Continent for Grade 26-70 natural to be shipped in tank cars to California. One order for 10 cars was placed during the past week for immediate delivery.

Refiners in the Mid-Continent continued to show more interest in natural gasoline. At least two more refiners were inquiring for supplies over their contract takings. Refinery demand generally was for low vapor pressure grades.

Northern jobbers were applying to the Internal Revenue Bureau for permits or licenses to do business as "producer-refiners." In this way, they acquire some of the advantages of refiners and are entitled to blend naphtha and natural. Manufacturers were looking toward this business as an added outlet for their natural gasoline.

Prices of Grade 26-70 held at 2.5 cents in Texas and 2.75 cents in Oklahoma.

Mid-Continent refined gasoline markets were unsettled the past week by increased offerings from districts dependent on the open market for disposal of gasoline. Jobber buying on the open market, especially of low octane grades, has been negligible the past few weeks. Competition for business has been keen. Some suppliers reported that "no-octane" gasoline made from Rodessa crude was creating the most competition.

Some East Texas refiners during the week were forced to meet competition in the northern consuming areas by reducing prices. At 4.75 cents, Group 3, they reported sufficient movement of low octane gasoline to balance offerings with orders.

Kerosine shipments were showing gradual improvement, according to some refiners. Two or three large companies were buying in the open market to supplement current production. They reported that offerings were not plentiful. Apparently the combination of increased demand and reduced production has kept the supply in good statistical position. The 41-43 w.w. grade was available from several districts at 4 cents, Group 3.

Fewer offerings of low-priced 200 No. 3 color neutral oil were encountered late the past week. Some observers believed the 9.5-cent 200 viscosity oil had about been cleaned up. Other grades of Mid-Continent neutral apparently were holding at unchanged prices.

Bright stocks were closely held and prices were well entrenched at current levels. Movement was reported brisk.

Wax inquiry was light.

Coastal

Heavy Fuel Active

NEW YORK, May 16

CARGO markets at the Gulf, both domestic and export, were fairly active in the week ended May 16, with the interest centering on heavy fuel oil and export gasoline.

Two sales which were announced early in the week, although actually closed late the previous week, aroused considerable interest in the bunker oil market. One sale involved a purchase by a major refiner of a full cargo of Grade C oil for domestic lifting this month. The price paid was $0.80 a barrel, f.o.b. the Gulf. The other sale covered 30,000 to 40,000 barrels of bunker oil for Italian shipment at $0.94 a barrel, f.o.b. the Gulf, for immediate lifting.

Traders' opinions of the market for Grade C varied, but, generally speaking, quotations were at $0.80 to $0.85 for prompt movement, with the majority asking $0.82 a barrel or higher.

A French refiner inquired early in the week for a split cargo of U. S. Motor and 64-66, 375 e.p. gasolines for May lifting. Suppliers reported that quotations for this business had been 5.5 cents on U. S. Motor and 5.75 cents for the 375 e.p. grade. At first they were of the opinion that these prices would not receive any consideration as the Roumanian market was reported to be fully 0.25 cent under the American Gulf. However, as the inquiry still was open at the end of the week, it was believed that the Roumanians also were quoting about the same prices as American suppliers.

The cargo market for kerosine and light fuel oils showed little change during the week. Buyers were not much interested in taking on range or heating oils at this time of the year and consequently suppliers were not pushing for business.

Pennsylvania

Price Trends Mixed

CLEVELAND, May 16

PRICE trends were mixed in the Pennsylvania market the week ended May 16. Lubricating oils continued active and prices were higher for neutral oils. Offerings of gasoline exceeded demand and all grades were reduced by some sellers.

Kerosine and fuel oils were easier in some quarters although little if any price shading was being resorted to. Wax also was easier. Demand for bright stock was fairly brisk.

Observers who had been predicting higher prices for neutrals since the latter part of April saw their predictions materialize when virtually all sellers advanced their prices at least 0.5 cent. Neutral inventories are said to have shown a steady decline the past few weeks. As spot offerings became scarcer, sellers advanced their prices. Since the trend toward the lighter grades of motor oil apparently is continuing, most traders were expecting demand for neutral to remain fairly steady.

While spot offerings of bright stock were a bit freer than they were at the turn of the month, sellers generally were holding their 25 pour test, No. 8 bright for a minimum of 21.5 cents. However, the trend toward higher prices was not as pronounced as it had been recently.

The threat of lower prices for gasoline materialized in a reduction of 0.25 cent on the higher octanes and 0.125 cent on U. S. Motor. The reductions were made despite increased demand. Some suppliers reported they were refusing to meet the lower prices. There was, however, sufficient material offered to supply current demand. Sellers who reduced their prices reported that gasoline from other refinery districts forced them to meet competition.

Offerings of kerosine were on the increase as demand failed to measure up to expectations. Most sellers, however, still were maintaining current market prices. Some shading was reported in the lower field where the price quoted for 45 water white by most sellers was 5.25 cents.

Contradictory reports were heard about fuel oil. Some observers reported that while demand was not quite as active, offerings were well held. Cracking operations were on the increase, taking up some of the slack which developed when consumer demand slowed up. Other observers, however, said that offerings were excessive in some quarters and that sellers' asking prices could be shaded.

Wax was easier and buyers were refusing to pay prices quoted by sellers.

Chicago

Gasoline Easy

CHICAGO, May 16

AS WAS the case with East Texas, Michigan, and virtually all other producing fields, gasoline from the Rodessa Louisiana field has had an unsettling influence on the Mid-Western market. The only reason it has not had a more disturbing effect on prices is because of its relatively low octane rating.

After searching for a phrase which fitted, it remained for our Tulsa market observer to bring into vogue the name "no-octane" for Rodessa gasoline. This term seems to be catching on with Chicago traders, and the gasoline is falling into a no-octane classification. It is not generally being considered as a marketable third grade. Consequently trade acceptance was predicated, sellers said, on prices which were anywhere from 0.25 to 0.625 cent below general third grade levels.

Blends of high octane stabilized natural gasoline with a refined gasoline of fairly good octane, resulting in a product, although fairly high in vapor pressure, with an octane rating between 68 and 70, were cutting into the market for unleaded regular gasoline.

Apart from Rodessa and trick blends of gasoline, the Mid-Western market backed and filled the week ended May 16.

Early in the week open market sales were reported slow, despite an excellent motoring weekend over most of the territory. Offerings were plentiful. However, buying for replacement of stocks used over the weekend entered the market Tuesday and Wednesday and virtually all sellers reported buying fair to good. Offerings of gasoline were not nearly so pressing. Later, however, volume of business again slumped, and the market ended the week with offerings again piling up, and demand insufficient to clear the surplus.

The 0.5-cent advance in Chicago retail prices May 13 gave rise to some optimism among sellers here. Several distributors who had been obtaining their gasoline requirements from contract jobbers in tank wagon lots, would now be forced to enter the open market, it was believed.

Short sales of gasoline were not uncommon in the Mid-Western market the past week.

Kerosine buying was slow. Offerings were plentiful. Prices were easy, with shading of 4 cents encountered.

California

Natural Gasoline Scarce

LOS ANGELES, May 15

ALL Pacific Coast petroleum markets were quiet the past week and no important spot sales were reported. While a number of unfavorable factors continued to exist, marketing officials generally considered the situation fairly satisfactory, with indications that the industry had made the necessary adjustments, following the recent advances in gasoline prices, and was now well on the way to a period of market stability.

Favorable factors were the liquidation of surplus stocks of gasoline and the increasing seasonal demand for motor fuels. The fact that producers of crude and natural gasoline were demanding a premium over field posted prices added materially to refinery costs and decreased the supplies of cut-rate refined products.

Wholesale and retail prices of major company branded gasolines were held to established levels but some secondary companies were meeting competition when necessary to hold their outlets.

Supplies of natural gasoline continued insufficient to meet demand. Premiums of 2.5 and 3 cents a gallon were generally demanded by producers, and independent refiners found difficulty in securing supplies even at those figures. A cargo of natural gasoline from a Gulf Coast port was known to be in transit to Los Angeles for a California major oil company and a group of independent marketers was still negotiating for a similar shipment.

No improvement was shown in the demand for gas oil or for kerosine-distillate.

In the absence of any real buying interest in some instances prices slumped to a distress level, but the general range of quotations was from 90 to 95 cents a barrel for gas oil and from $1 to 1.05 a barrel for kerosine-distillate stock.

Pacific Coast seaboard markets were quiet but with indications of a revival of interest in kerosine-distillate by Oriental buyers. Heavy import duties imposed by the Chinese government have acted as a bar to any large volume of shipments of this product to China and this handicap would have to be overcome before important developments could take place.

Eastern

Gasoline More Active

NEW YORK, May 16

TANK car gasoline markets generally were unchanged at eastern seaboard terminals during the week ended May 16.

Retail gasoline prices were cut 1 cent a gallon in parts of Connecticut, including Danbury and Hartford. Unsettled retail markets continued to prevail at New York and Boston. Reports were heard late in the week that a drastic change in the marketing structure was to be made in metropolitan New York, but nothing definite had been announced as the week ended.

Gasoline demand was reported by distributors to be on the increase and this was reflected in improved tank car, barge and truck deliveries from eastern seaboard terminals. Suppliers generally reported that their gasoline stocks were in fair balance even though stocks for the country as a whole had shown a considerable increase.

Kerosine markets remained quiet and movement still was slack. Distrib-

National Lubricate for Safety Week May 23-30, 1936

National Lubricate For Safety Week swings into full stride May 23. For the past week the air has been full of oil company radio broadcasts announcing the event. Oil companies from coast to coast are set to enter the campaign, armed with promotional ammunition ranging from banners to door-to-door solicitation.

NATIONAL PETROLEUM NEWS has received numerous requests from local oil companies for the advertising material published in the April 8 issue. Every indication points to the small oil companies going into the program with great enthusiasm.

The big "Lubricate For Safety" push starts May 23, and although the inaugural week ends May 30, alert companies will keep right on pushing. Safety lubrication is a year-round proposition.

utors were paying little attention to the market at present and suppliers said that offerings at lower prices had failed to stimulate buying.

Wax

Scale Prices Lower

NEW YORK, May 16.—Scale wax markets were inactive in the week ended May 16. Buyers showed some interest, manufacturers said, but as a rule the prices they offered to pay were considerably under suppliers' opinions of the market.

Some sales of white scale were reported on a basis of 2.35 to 2.45 cents a pound at New York. Reports of shading of these prices were heard in some quarters, while, on the other hand, some manufacturers were asking a minimum of 2.5 cents.

The fully refined market remained steady with nothing of outstanding interest reported. No changes were noted in prices.

Willard H. Ray Dies

By Teletype

WASHINGTON, May 18.—Willard H. Ray, of Colonial Oil Co., died May 15, at his home in Norfolk, Va., after an extended illness, according to word received here today. Besides being active in civic affairs work of the Virginia Petroleum Industries Committee, Mr. Ray was also president of the Virginia Highway Users Association.

New Hampshire Legislature Kills Gas Tax Increase

CONCORD, N. H., May 12.—The New Hampshire legislature, meeting in a special one day session here May 12, refused to increase the state gasoline tax 1 cent a gallon to provide funds to finance $2,000,000 in reconstruction work on highways and bridges destroyed in the spring floods.

The legislature approved a $2,000,000 bond issue which will be retired in the same manner as state's present $8,000,000 road-bond issue. Both issues will be retired by using 1 cent of the state's regular 4-cent gasoline tax. It will take an additional three years to pay off the new bond issue, it is estimated.

The addition of another penny to the gasoline tax was recommended to the legislature by a council of 100 which was appointed by the governor to study the flood problem. The tax increase was vigorously opposed by the New Hampshire Petroleum Industries Committee.

GOOD Box CONSTRUCTION

BACKGROUND PHOTO COURTESY SUN OIL CO

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●

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REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Gasoline *and* Naphtha

Oklahoma	**May 18**	**May 11**	**May 4**
48-54, 450 e.p. naphtha	4.75 – 4.875	4.75 – 4.875	4.875– 5.00
U. S. Motor gasoline, by octane numbers			
62 octane and below..	4.875– 5.125	4.875– 5.25	5.00 – 5.25
*63-67 octane.....	5.50 – 5.75	5.50 – 5.75	5.625– 5.875
*68-70 octane (regular)	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
60-62, 400 e.p. gasoline	4.875– 5.125	4.875– 5.25	5.00 – 5.25
64-66, 375 e.p. gasoline	5.125	5.125	5.125– 5.25
68-70, 350-360 e.p. gasoline.....	5.25	5.25	5.25 – 5.375
Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
52-54 naphtha.....	5.375– 5.50	5.50 – 5.625	5.50 – 5.625
Motor gasoline:			
U.S. Motor (58-62°)	5.50 – 5.625	5.625– 5.75	5.625– 5.75
Minimum 60 octane	6.75 – 7.00	7.00 – 7.125	7.00– 7.125
Minimum 65 octane	7.00 – 7.25	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.75 – 5.875	5.875– 6.00	5.875– 6.00
68-70, 350-360 e.p. gasoline.....	6.00 – 6.125	6.125– 6.25	6.125– 6.25
Other districts:			
52-54 naphtha.....	5.375– 5.50	5.50 – 5.625	5.50 – 5.625
54-56 naphtha.....	5.50 – 5.625	5.625– 5.75	5.625– 5.75
Motor gasoline:			
U.S. Motor (58-62°)	5.50 – 5.625	5.625– 5.75	5.625– 5.75
Minimum 60 octane	6.75 – 7.00	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.00 – 7.25	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.75 – 5.875	5.875– 6.00	5.875– 6.00
68-70, 350-360 e.p. gasoline.....	6.00 – 6.125	6.125– 6.25	6.125– 6.25
California (3c tax to be added to prices if used in state)			
54-58 U.S. Motor, 437 e.p. for in-state shipment.....	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
54-58, U.S. Motor, 437 e.p. for outside state shipment.....	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
58-61, 375-400 e.p. gasoline, 65 octane and above.....	7.50 – 8.25	7.50 – 8.25	7.50 – 8.25
†***North Texas*** (F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).			
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.875– 5.00	4.875– 5.00	5.00 – 5.125
*63-67 octane.....	5.50 – 5.625	5.625– 5.75	5.625– 5.875
*68-70 octane (regular)	6.00	6.00	6.00 – 6.125
60-62, 400 e.p. gasoline	5.00 – 5.125	5.00 – 5.125	5.125
64-66, 375 e.p. gasoline	5.125	5.125	5.25
68-70, 350-360 e.p. gasoline.....	5.25	5.25	5.375
Kansas (F.o.b refinery, Kansas destination)			
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	5.125– 5.25	5.125– 5.25	5.25 – 5.375
*63-67 octane.....	5.75 – 5.875	5.875– 6.00	5.875– 6.125
*68-70 octane (regular)	6.25 – 6.375	6.25 – 6.375	6.25 – 6.375
60-62, 400 e.p. gasoline	5.125– 5.25	5.125– 5.25	5.25 – 5.375
†***West Texas and New Mexico*** (F.o.b. W. Texas and N. Mex. refineries for unrestricted shipment)			
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.875– 5.00	4.875– 5.00	5.00 – 5.125
*63-67 octane.....	5.625– 5.75	5.625– 5.75	5.75
*68-70 octane (regular)	6.00	6.00	6.00
†***East Texas*** (F. o. b. East Texas refinery for unrestricted shipment)			
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.75	4.875	5.00
60-62 400 e.p. gasoline	4.75 – 4.875	4.875	5.00
North Louisiana (For Louisiana and Arkansas destination)			
U. S. Motor gasoline:			
62 octane and below..	5.75	5.75	5.75
*63-67 octane.....	6.50	6.50	6.50
*68-70 octane (regular)	6.75	6.75	6.75

†Refiners generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

*Octane numbers revised to this basis April 15. Formerly, the two higher classifications were 63-70 octane and 71 and above.

	May 18	**May 11**	**May 4**
Arkansas (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline;			
62 octane and below..	5.75	5.75	5.75
*63-67 octane.....	6.50	6.50	6.50
*68-70 octane (regular)	6.75	6.75	6.75
Ohio (Quotations of S. O. Ohio. Delivered any point in Ohio).			
U. S. Motor gasoline..	8.75	8.75	8.75
Above 65 octane no.	9.00	9.00	9.00

Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of sales made on dates shown to blenders on the freight basis shown below, although shipments may originate in other manufacturing districts, such as East Texas, Panhandle, Southwest Texas or Kansas).

F.o.b. Group 3			
Grade 26-70.....	2.75	2.75	2.75
F.o.b. Breckenridge			
Grade 26-70.....	2.50	2.50	2.50
California (F. o. b. plants in Los Angeles basin)			
75-85, 375-390 e.p. for blending.....	8.25 – 9.00	7.75 – 8.75	7.50 – 7.75

Kerosine

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
45 w.w. kerosine.....	5.25 – 5.375	5.25 – 5.375	5.25 – 5.375
46 w.w. kerosine.....	5.375– 5.50	5.375– 5.50	5.375– 5.50
47 w.w. kerosine.....	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Other districts:			
45 w.w. kerosine.....	5.375– 5.50	5.375– 5.50	5.375– 5.50
46 w.w. kerosine.....	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
47 w.w. kerosine.....	5.625– 5.75	5.625– 5.75	5.625– 5.75
Oklahoma			
41-43 kerosine.....	4.00 – 4.25	4.125– 4.375	4.25 – 4.375
42-44 w.w. kerosine...	4.25 – 4.50	4.375– 4.50	4.50 – 4.625
Kansas (F. o. b. refinery Kansas destination)			
41-43 w.w. kerosine...	4.50 – 4.625	4.625	4.625
42-44 w.w. kerosine...	4.625– 4.75	4.75	4.75
†***North Texas*** (F.o.b. Wichita Falls district or shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).			
41-43 w.w. kerosine...	4.375	4.375– 4.50	4.375– 4.50
East Texas (F.o.b. East Texas refinery for unrestricted shipment)			
41-43 w.w. kerosine...	*4.00 – 4.125	*3.875– 4.125	*4.00 – 4.125
*Nominal			
North Louisiana (For Louisiana and Arkansas destination)			
41-43 w.w kerosine...	4.25 – 4.375	4.25 – 4.50	4.50 – 4.625
Arkansas (For Arkansas and Louisiana destination)			
41-43 w.w. kerosine...	*4.50 – 4.625	*4.50 – 4.625	4.75
*Only one refiner quoting.			
California (F.o.b. California refineries)			
38-40 w.w. kerosine...	3.00 – 5.00	3.00 – 5.00	3.00 – 5.00

Gas *and* Fuel Oils

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
36-40 fuel oil.....	4.625– 4.75	4.625– 4.75	4.625– 4.75
‡*Other districts*:			
36-40 fuel oil.....	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
‡Not including Pittsburgh.			
Oklahoma (F.o.b. Oklahoma refineries)			
No. 1 white fuel oil	3.875– 4.00	3.875– 4.00	3.875– 4.00
No. 1 straw fuel oil	3.375– 3.625	3.50 – 3.625	3.625– 3.75
No. 2 straw fuel oil.	2.875– 3.00	3.00 – 3.125	3.125
No. 2 dark fuel oil..	2.75 – 3.00	2.875– 3.125	3.00 – 3.125
U. G. I. gas oil....	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

(*Continued on next page*)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

	May 18	May 11	May 4
Fuel oils: (Prices per barrel of 42 U. S. gallons)			
28-30, zero	2.875–3.00	2.875–3.00	3.00–3.125
28-30	$1.00–$1.10	$1.00–$1.10	$1.00–$1.10
24-26	$0.80–$0.85	$0.80–$0.85	$0.80–$0.85
18-22	$0.725–$0.75	$0.725–$0.75	$0.725–$0.75
14-16	$0.625–$0.65	$0.65–$0.675	$0.65–$0.675
Kansas (F.o.b. refinery, Kansas destination)			
No. 1 prime white	4.00	4.00	4.00
18-22 fuel oil (per bbl.)	$0.80–$0.825	$0.80–$0.825	$0.80–$0.825
10-14 fuel oil (per bbl.)	$0.65–$0.70	$0.65–$0.675	$0.65–$0.70
North Texas (F.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).			
No. 1 straw, fuel oil	3.50	3.50	3.50–3.625
No. 1 white, fuel oil	3.75–3.875	3.75–3.875	3.75–3.875
U.G.I. gas oil	2.50	2.50	2.50
No. 2 fuel oil	2.875–3.00	2.875–3.00	2.875–3.00
24-26 fuel oil (per bbl.)	$0.70–$0.725	$0.70–$0.725	$0.70–$0.725
18-22 fuel oil (per bbl.)	$0.65–$0.675	$0.675–$0.70	$0.675–$0.70
West Texas (F.o.b. West Texas refineries for unrestricted shipment).			
No. 2 fuel oil	*2.875–3.00	*2.875–3.00	*3.00–3.125
18-22 fuel oil (per bbl.)	$0.675–$0.70	$0.70–$0.73	$0.70–$0.73
East Texas (F.o.b East Texas refineries for unrestricted shipment).			
No. 1 white, fuel oil	*3.625–3.75	*3.75	*3.75–3.875
U.G.I. gas oil	2.50–2.625	2.50–2.625	2.50–2.625
No. 2 fuel oil	*2.625–2.75	*2.75	*2.75–2.875
24-26 fuel oil	$0.65–$0.675	$0.675–$0.70	$0.675–$0.70
20-24 fuel oil	$0.65	$0.65–$0.675	$0.65–$0.675

*Nominal.

North Louisiana (For Louisiana and Arkansas destination).			
No. 2 fuel oil	2.875–3.00	2.875–3.00	3.25
U.G.I. gas oil	2.75	2.75	2.875–3.00
20-24 fuel oil (per bbl.)	$1.05–$1.10	$1.05–$1.10	$1.05–$1.10
16-20 fuel oil (per bbl.)	$0.95–$1.00	$0.95–$1.00	$0.95–$1.00
10-14 fuel oil (per bbl.)	$0.70–$0.75	$0.70–$0.75	$0.70–$0.75
Arkansas (For Arkansas and Louisiana destination)			
No. 2 fuel oil	*3.50–3.625	*3.50–3.625	3.625
28-30 fuel oil, zero	*3.25	*3.25	3.25
20-24 fuel oil (per bbl.)	$0.825–$0.875	$0.825–$0.875	$0.825–$0.875
16-20 fuel oil (per bbl.)	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
10-14 fuel oil (per bbl.)	$0.60–$0.65	$0.60–$0.65	$0.60–$0.65

*Only one refiner quoting.

California			
San Joaquin Valley, per bbl.:			
Grade C fuel oil	$0.65–$0.75	$0.65–$0.75	$0.65–$0.75
Diesel fuel oil	$0.95–$1.47	$0.95–$1.47	$0.95–$1.47
Stove distillate	$1.20–$1.89	$1.20–$1.89	$1.20–$1.89
Los Angeles, per bbl.:			
Grade C fuel oil	$0.70–$0.95	$0.70–$0.95	$0.70–$0.95
Diesel fuel	$0.95–$1.47	$0.95–$1.47	$0.95–$1.47
Stove distillate	$1.20–$1.89	$1.20–$1.89	$1.20–$1.89
San Francisco, per bbl.:			
Grade C fuel oil	$1.00	$1.00	$1.00
Diesel fuel	$1.68	$1.68	$1.68
Stove distillate	$2.10	$2.10	$2.10

Neutral Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

	Viscous Neutrals (Viscosity at 70° F.)		
200 Vis. (180 at 100°) No. 3 color, 420-425 flash:			
0 pour test	23.00–23.50	22.50–23.00	22.50–23.00
10 pour test	22.00–22.50	21.50–22.00	21.50–22.00
15 pour test	21.50–22.00	21.00–21.50	21.00–21.50
25 pour test	20.50–21.00	20.00–20.50	20.00–20.50
180 Vis. (165 at 100) No. color, 410-415 flash:			
25 pour test	19.50–20.00	19.00–19.50	19.00–19.50
150 Vis. (143 at 100) No. 3 color, 400-405 flash:			
0 pour test	19.50–20.00	19.00–19.50	19.00–19.50
10 pour test	18.50–19.00	18.00–18.50	18.00–18.50
15 pour test	18.00–18.50	17.50–18.00	17.50–18.00
25 pour test	17.00–17.50	16.50–17.00	16.50–17.00

South Texas (F.o.b. South Texas refineries, for domestic shipment)

Vis. Color			
Pale Oils:	*(Viscosity at 100° F.: pour test 0)*		
100 No. 1½-2½	5.00	5.00	5.00
200 No. 2-3	7.00	7.00	7.00
300 No. 2-3	7.50	7.50	7.50
500 No. 2½-3½	8.50	8.50	8.50
750 No. 3-4	9.00	9.00	9.00
1200 No. 3-4	9.50	9.50	9.50
2000 No. 3-4	9.75–10.00	9.75–10.00	9.75–10.00
Red Oils:			
200 No. 5-6	7.00	7.00	7.00
300 No. 5-6	7.50	7.50	7.50
500 No. 5-6	8.50	8.50	8.50
750 No. 5-6	9.00	9.00	9.00
1200 No. 5-6	9.50	9.50	9.50
2000 No. 5-6	9.75–10.00	9.75–10.00	9.75–10.00

Note: South Texas red oil prices shown above cover oils with green cast: blue cast red oils are slightly lower in some cases.

Mid-Continent (Viscosity at 100° F.; F. o. b. Tulsa basis. Prices represent quotations and sales)

	0 to 10 Pour Point:		
Pale Oils:			
Vis. Color			
60-85—No. 2	5.25	5.25	5.25
86-110—No. 2	5.75	5.75	5.75
150—No. 3	10.00	10.00	10.00
180—No. 3	11.25	11.25	11.25
*200—No. 3	9.50–11.75	9.50–11.75	11.75
250—No. 3	13.75	13.75	13.75
280—No. 3	14.75	14.75	14.75
300—No. 3	15.25	15.25	15.25
Red Oils:			
180—No. 5	10.25	10.25	10.25
200—No. 5	10.75	10.75	10.75
250—No. 5	12.75	12.75	12.75
280—No. 5	13.75	13.75	13.75
300—No. 5	14.00	14.00	14.00

Note: Non-Viscous pale oils (60 to 110 Vis.) with a 15 to 25 pour point are quoted 0.5c under 0 to 10 pour test oils; pale and red viscous oils (150 to 300 Vis.) with 15 to 25 pour point are quoted 1c under 0 to 10 pour test oils, with one exception. See notation marked with star. Viscous oils (150 to 300 Vis.) with a No. 4 color are quoted 0.5c above No. 5 color oils.

*200 No. 3 oil, 15-25 pour point, was quoted and sold generally at 10.75c, effective May 18.

Chicago (F.o.b. Chicago District refineries) (Vis. at 100° F.)

Pale Oils, *15 to 30 pour point:			
Vis. Color			
60-85—No. 2	6.50	6.50	6.50
86-110—No. 2	7.00	7.00	7.00
150—No. 3	10.00	10.00	10.00
180—No. 3	11.25	11.25	11.25
200—No. 3	11.75	11.75	11.75
250—No. 3	13.75	13.75	13.75
Red Oils, *15 to 30 Pour Point:			
180—No. 5	10.25	10.25	10.25
200—No. 5	10.75	10.75	10.75
250—No. 5	12.75	12.75	12.75
280—No. 5	13.25	13.25	13.25
300—No. 5	13.50	13.50	13.50

*60-110 vis. oils, with 0-10 pour point, bring 0.5c higher than above prices. Other oils with 0-10 pour point are quoted at 1c higher. To obtain prices delivered in Chicago, add 0.25c per gal.

California (F.o.b. California refineries; Viscosity at 100° F.)

All neutral oils, 11.5c per gal. in tank car lots; and 13.5c in iron bbls., to refiners only, excluding federal tax.

Cylinder Stocks

Mid-Continent (F.o.b Tulsa basis. Prices represent quotations and sales)

Bright Stocks:			
190-200 Vis. at 210° D	21.50	21.50	21.00
150-160 Vis. at 210°D:			
0 to 10 pour test	18.50	18.50	18.00
10 to 25 pour test	18.00	18.00	17.50
25 to 40 pour test	17.50	17.50	17.00
150-160 Vis. at 210° E	17.50	17.50	17.00
120 Vis. at 210° D:			
0 to 10 pour test	18.00	18.00	17.50
10 to 25 pour test	17.50	17.50	17.00
25 to 40 pour test	17.00	17.00	16.50
600 Stm. Rfd. Dark Green	5.75–6.50	5.75–6.50	5.75–6.50
600 Stm. Rfd. Olive Green	6.75–8.00	6.75–8.00	6.75–8.00
631 Steam Refined	*13.50	*13.50	*13.00
Black Oil	3.25–3.375	3.25–3.375	3.25–3.375

*Only one refiner quoting.

Chicago (F.o.b. Chicago district refineries) (Viscosity at 210°)

Unfiltered Steam Refined:			
140	9.00	9.00	9.00
160	10.00	10.00	10.00
200	11.00	11.00	11.00
Bright stocks, 160 vis. at 210 No. 8 color:			
0 to 10 pour point	20.25	‡20.25	19.75
15 to 25 pour point	19.75	‡19.75	19.25
30 to 40 pour point	19.25	‡19.25	18.75
E filtered Cyl. Stock	14.50	14.50	14.50

To obtain prices delivered in Chicago, add 0.25c per gal.

‡Correction: These prices correct for May 11, instead of prices published in May 13 issue.

Western Penna. (A.S.T.M. tests, quotations and/or sales prices to car unloaders)

600 stm. rfd. filterable	13.00–13.50	13.00–13.50	12.50–13.00
650 steam refined	14.00–14.50	14.00–14.50	13.50–14.00

(Continued on next page)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Cylinder Stocks (cont'd)

	May 18	May 11	May 4
600 flash	15.00 –15.50	15.00 –15.50	14.50 –15.00
630 flash	17.50 –18.00	17.50 –18.00	17.50 –18.00
600 Warren E	15.00 –15.50	15.00 –15.50	15.00 –15.50
Bright stock, 145-155, vis. at 210°, 540-550 flash, No. 8 color:			
10 pour test	24.50 –25.00	24.50 –25.00	24.00 –24.50
15 pour test	23.50 –24.00	23.50 –24.00	23.00 –23.50
20 pour test	22.50 –23.00	22.50 –23.00	22.00 –22.50
25 pour test	21.50 –22.00	21.50 –22.00	21.00 –21.50

Petrolatums

Western Penna. (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars, 0.5c per pound less. Quotations are from majority of petrolatum makers).

Snow White	6.625	6.625	6.625
Lily White	5.625	5.625	5.625
Cream White	4.625	4.625	4.625
Light Amber	2.75	2.75	2.75
Amber	2.50	2.50	2.50
Red	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125

Wax

	May 18	May 11	May 4
Western Penna. (Per pound, f.o.b. New York)			
122-124 wh. crude scale, A.m.p.	2.35 – 2.40	2.40 – 2.45	2.45 – 2.50
124-126 wh. crude scale, A.m.p.	2.40 – 2.45	2.45 – 2.50	2.50 – 2.55
Oklahoma (Per pound in barrels; n a few instances, per pound in burlap bags; f.o.b. Oklahoma refineries)			
124-126 wh. crude scale, A.m.p.	2.50 – 2.625	2.50 – 2.625	2.75
Chicago (F.o.b. Chicago district refineries, in cents per pound, in bags, carload lots. Melting points A.S.T.M. method; add 3° F. to convert into A.m.p.)			
Fully refined:			
122-124	4.65 – 4.75	4.65 – 4.75	4.65 – 4.75
125-127	4.90 – 5.00	4.90 – 5.00	4.90 – 5.00
127-129	5.05 – 5.15	5.05 – 5.15	5.05 – 5.15
130-132	*5.45 – 5.55	*5.45 – 5.55	*5.45 – 5.55
132-134	*5.70 – 5.80	*5.70 – 5.80	*5.70 – 5.80
135-137	*6.45 – 6.55	*6.45 – 6.55	*6.45 – 6.55

*Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKETS

Following prices are in cents per gallon, except where otherwise noted, in tank car lots, representing majority of sales of products made by Chicago sellers, from legally produced crude to jobbers on Group 3 freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.

Gasoline

U. S. Motor gasoline:	May 18	May 11	May 4
62 octane and below	4.75 – 5.125	4.75 – 5.125	4.875– 5.125
*63-67 octane	5.125– 5.75	5.125– 5.75	5.25 – 5.75
*68-70 octane (regular)	5.625– 6.00	5.75 – 6.125	5.75 – 6.125
60-62, 400 e.p.	4.75 – 5.125	4.75 – 5.125	4.875– 5.25
64-66, 375 e.p.	5.00 – 5.25	5.00 – 5.25	5.125– 5.25
68-70, 350-360 e.p.	5.125– 5.375	5.125– 5.375	5.25 – 5.375

Kerosine

41-43 w.w.	4.00 – 4.25	4.00 – 4.25	4.125– 4.375
42-44 w.w.	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50

Fuel *and* Gas Oils

Domestic:			
No. 1 prime white	3.75 – 4.00	3.75 – 4.00	3.875– 4.125
No. 1 straw	3.25 – 3.50	3.375– 3.625	3.375– 3.625

*Octane numbers revised to this basis April 15. Formerly, the two higher classifications were 63-70 octane and 71 and above.

	May 18	May 11	May 4
No. 2 straw	2.875– 3.125	3.00 – 3.125	3.00 – 3.125
No. 2 dark	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
No. 3	2.625– 2.875	2.75 – 3.00	2.75 – 3.00
No. 4 (per bbl.)	$0.975–$1.05	$0.975–$1.05	$0.975–$1.05
No. 5 (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Industrial:			
No. 4 (per bbl.)	$0.875–$0.90	$0.875–$0.90	$0.875–$0.90
No. 5, (per bbl.)	$0.625–$0.675	$0.625–$0.675	$0.625–$0.675
No. 6, (per bbl.)	$0.55 –$0.60	$0.55 –$0.60	$0.55 –$0.60
U.G.I. gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50

Naphtha *and* Solvent

Stoddard solvent	6.875	6.875	6.875
V. M. & P. naphtha	7.375	7.375	7.375
Cleaners' naphtha	7.375	7.375	7.375
Mineral spirits	6.375	6.375	6.375
Rubber solvent	7.375	7.375	7.375
Lacquer diluent	8.375	8.375	8.375

DAILY GASOLINE PRICES

Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended May 15, 1936).

	May 11	May 12	May 13	May 14	May 15
U. S. Motor, 62 octane and below:					
East Texas	4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75
*North Texas	4.875– 5.00	4.875– 5.00	4.875– 5.00	4.875– 5.00	4.875– 5.00
West Texas	4.875– 5.00	4.875– 5.00	4.875– 5.00	4.875– 5.00	4.875– 5.00
Oklahoma	4.875– 5.25	4.875– 5.25	4.875– 5.25	4.875– 5.25	4.875– 5.25
Mid-Western (Group 3 basis)	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125
U. S. Motor, †63-67 octane:					
*North Texas	5.625– 5.75	5.625– 5.75	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
West Texas	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
Oklahoma	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
Mid-Western (Group 3 basis)	5.125– 5.75	5.125– 5.75	5.125– 5.75	5.125– 5.75	5.125– 5.75
U. S. Motor, 68-70 octane (regular):					
*North Texas	6.00	6.00	6.00	6.00	6.00
West Texas	6.00	6.00	6.00	6.00	6.00
Oklahoma	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Mid-Western (Group 3 basis)	5.75 – 6.125	5.75 – 6.125	5.75 – 6.125	5.75 – 6.126	5.625– 6.00
Motor Gasoline, 60-64 octane					
New York harbor	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Philadelphia district	6.75	6.75	6.75	6.75	6.75
Baltimore district	6.75	6.75	6.75	6.75	6.75
Motor Gasoline, 65 octane & above					
New York harbor	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
Philadelphia district	7.00	7.00	7.00	7.00	7.00
Baltimore district	7.00	7.00	7.00	7.00	7.00
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.625– 5.75	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Other districts (Western Penna.)	5.625– 5.75	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	7.00 – 7.125	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Other districts (Western Penna.)	7.00 – 7.125	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	7.25 – 7.375	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
Other districts (Western Penna.)	7.25 – 7.375	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.
†Changed to 63-67 octane, April 15; formerly was 63-70 octane.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect May 18, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N. J.	7.8	10.3	4	17.8	9
Newark, N. J.	7.8	10.3	4	17 8	7.5
Annapolis, Md.	8.1	10.6	5	19.1	10
Baltimore, Md.	7.5	10	5	18.5	8
Cumberland, Md.	9.1	11.6	5	20.1	12.7
Washington, D. C.	7.5	10	3	16.5	9
Danville, Va.	9	11.5	6	21	12.9
Norfolk, Va.	7.5	10	6	19.5	11.3
Petersburg, Va.	8	10.5	6	20	11.7
Richmond, Va.	8	10.5	6	20	11.7
Roanoke, Va.	9	11.5	6	21	12.9
Charleston, W. Va.	8.3	10.8	5	19.3	12.6
Parkersburg, W. Va.	7.6	10.1	5	18.6	11.2
Wheeling, W. Va.	8.5	11	5	19.5	12.2
Charlotte, N. C.	9.2	11.7	7	22.2	12.9
Hickory, N. C.	9.5	12	7	22.5	13.1
Mt. Airy, N. C.	9.5	12	7	22.5	13.2
Raleigh, N. C.	8 9	11.4	7	21.9	12.7
Salisbury, N. C.	9.3	11.8	7	22.3	13
Charleston, S. C.	7.5	10	7	20.5	11.3
Columbia, S. C.	8.8	11.3	7	21.8	12.6
Spartanburg, S. C.	9.2	11.7	7	22.2	12.9

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: Beginning Feb. 11, 1935, all new commercial consumers will be signed on following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1 5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c.

Above prices apply only when deliveries are made in lots of 50 or 100 gals. at one time, depending on code region in which deliveries are effected.

If deliveries are made in less than these minimum quantities, s.s price at time and place of delivery applies.

Non-contract customers will be billed at 2.5c over tank car price at time and place of delivery.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas

	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	S.S.	Kerosine T.W.
Metropolitan N. Y. City:					
Boroughs of Manhattan and Bronx.	9.2	*5	14.2	19.2	7 25
Borough of Richmond (Staten Is.).	9.2	*5	14 2	19.2	7.25
Borough of Brooklyn (Kings and Queens)	9.2	*5	14.2	19.2	7.25
Albany, N. Y.	9	5	14	17.5	7 75
Binghamton, N. Y.	10.5	5	15.5	19	9
Buffalo, N. Y.	9.5	5	14.5	18	8 25
Jamestown, N. Y.	10	5	15	18 5	8 25
Plattsburg, N. Y.	11	5	16	19.5	8.75
Rochester, N. Y.	9.5	5	14.5	18	8 25
Syracuse, N. Y.	9 5	5	14.5	18	8 75
Danbury, Conn.	9.5	4	13.5	17	8
Hartford, Conn.	9.5	4	13.5	17	7
New Haven, Conn.	9	4	13	16 5	7.5
Bangor, Me.	10	5	15	18.5	8
Portland, Me.	9.5	5	14.5	18	7.75
Boston, Mass.	8.5	4	12.5	16	7.5
Concord, N. H.	10.5	5	15.5	19	8.5
Lancaster, N. H.	11.5	5	16.5	20	9.5
Manchester, N. H.	10	5	15	18.5	8
Providence, R. I.	9	3	12	15.5	7.25
Burlington, Vt.	12	5	17	20.5	8.75
Rutland, Vt.	10.5	5	15.5	19	8.5

*Plus 2% city sales tax computed at time of each sale.

Discounts to dealers: thru territory, off normal s.s. price, 4c to undivided dealers, and 3.5c to "split" dealers; except Metropolitan N. Y. City, undivided dealers get 5.5c and divided dealers get 5c, effective May 7.

To commercial consumers: Effective Feb. 4, 1935, covering yearly purchases, billed at posted tank car price, plus these differentials: 2.5c for delivery of 1,200 to 36,000 gals.; plus 2c, for 36,000 to 120,000 gals.; plus 1.5c for 120,000 to 240,000 gals.; plus 1c for 240,000 to 480,000 gals.; plus 0.5c for 480,000 gals. and over. Those buying less than 1,200 gals. yearly, get retail s.s. price.

Atlantic Refining

Atlantic White Flash Plus Gasoline

	Total T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	11.5	5	16.5	17.5	9.5
Pittsburgh, Pa.	12.5	5	17.5	19.5	10
Allentown, Pa.	12	5	17	18	9.5
Erie, Pa.	12.5	5	17.5	18.5	8
Scranton, Pa.	11.75	5	16.75	17	10
Altoona, Pa.	12.5	5	17.5	19.5	9.5
Dover, Del.	12	5	17	17	10
Wilmington, Del.	11.5	5	16.5	16.5	9.5
Boston, Mass.	8.5	4	12.5	16	7
Springfield, Mass.	10	4	14	17.5	7.5
Worcester, Mass.	9.5	4	13.5	17	7.75
Fall River, Mass.	9	4	13	16.5	7
Hartford, Conn.	10.5	4	14.5	18	7
New Haven, Conn.	9	4	13	16.5	7.5
Providence, R. I.	9	3	12	15.5	7
Atlantic City, N. J.	10.3	4	14.3	17 8	9
Camden, N. J.	9.5	4	13.5	16.5	8
Trenton, N. J.	10.3	4	14.3	17.8	8
Annapolis, Md.	10 6	5	15.6	19 1	9.5
Baltimore, Md.	10	5	15	18.5	8
Hagerstown, Md.	11.1	5	16.1	19.6	10
Richmond, Va.	10.5	6	16.5	20	11.7
Wilmington, N. C.	10.1	7	17.1	20.6	11.4
Brunswick, Ga.	12	7	19	21	*13
Jacksonville, Fla.	10	8	18	20	12

Dealer discounts: on Atlantic White Flash Plus gasoline, thru territory, divided dealers, price equal to 3.5c off posted s.s. price; undivided dealers, price equal to 4c off posted s.s. price; authorized dealers contracts previous to Aug. 19, 1933, price equal to 3c less than posted s.s. price, plus 1c rental

Price basis to commercial consumer: Effective Oct. 1, 1935, on yearly gasoline purchases based on posted tank car prices plus following amounts: 1,200 to 36,000 gals., 2.5c over t.c.; 36,000 to 120,000 gals., 2c; 120,000 to 240,000 gals., 1.5c; 240,000 to 480,000 gals., 1c; 480,000 gals. and over, 0.5c.

S. O. Ohio

Sohio X-70 Gasoline

Ohio statewide	12.5	5	17.5	19.5	*13.5
Counties below statewide gasoline schedule:					
Paulding	11	5	16	17	....
Ashtabula, Champaign, Clarke, Franklin and Lucas	11.5	5	16.5	17.5	....

Renown (Third Grade Gasoline)

Ohio statewide	12	5	17	18	....
Counties below statewide gasoline schedule:					
Paulding	9	5	14	15	....
Ashtabula, Champaign, Clarke, Franklin and Lucas	11	5	16	16	....
Counties above statewide schedule:					
Butler, Darke, Fairfield, Greene, Hamilton, Miami, Montgomery, Preble Hocking and Summit:	12.5	5	17.5	19.5	....

Kerosine Prices

(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Gallia *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandot *12.5

Defiance and Paulding *12

Statewide Prices to Resellers & Agents

(These gasoline prices are on sliding scale based on actual spread between S. O. Ohio statewide tank car price and posted local s.s. price).

Including taxes	†Undivided Accounts	Divided Accounts	**Authorized Agents
Sohio X-70	16	16.5	16.5
Renown (3rd grade)	15 5	16	16

Note: On single deliveries of motor gasolines under 25 gallons, to t.w. consumers, s.s. price applies.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices." S. O. Ohio says.

*Kerosine prices include 1c state tax.

†Excluding authorized agents.

**Excluding 0.5c rental.

Discounts to contract tank wagon consumers only: on all motor gasolines, thru Ohio, effective Dec. 1, 1934, except counties mentioned hereafter, off posted t.w. price, on deliveries per month: 1,000 to 9,999 gals., 1.5c per gal.; 10,000 gals. and over, 2.5c. Under 1,000 gals., full t.w. price. Single deliveries of less than 25 gals., full s.s. price. Additional yearly discounts (less amount paid or credited to buyer on monthly purchases), off t.w. price: 12,000 to 119,999 gals., 1.5c; 120,000 gals. or over, 2.5c. Q. D. A. is off statewide schedule in the following counties: Allen, Auglaize, Columbiana, Darke, Hancock, Hardin, Logan, Lucas, Mahoning, Medina, Mercer, Putnam, Shelby, Trumbull, Union and Van Wert. For this information, write National Petroleum News.

Discounts on kerosine: to dealers and commercial consumers, 3c per gal. off t.w. price, any quantity.

S. O. Kentucky

	Crown Gasoline Total T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Lexington, Ky.	13	6	19	21	11
Louisville, Ky.	12.5	6	18.5	20	10
Paducah, Ky.	12	6	18	19	8.5
Covington, Ky.	12.5	6	18.5	20.5	10.5
Jackson, Miss.	13	7	20	22	*13
Vicksburg, Miss.	12.5	7	19.5	21.5	*13
Birmingham, Ala.	13	*8	21	23	12
Mobile, Ala.	13	*8	21	23	12
Montgomery, Ala.	13	*9	22	24	*14.5
Macon, Ga.	13	7	20	22	*14.5
Atlanta, Ga.	13.5	7	20.5	22 5	*13.5
Augusta, Ga.	13	7	20	22	*13
Savannah, Ga.	11.5	7	18 5	20.5	*13
Jacksonville, Fla.	10	8	18	20	12
Miami, Fla.	11.5	8	19.5	21.5	13.5
Tampa, Fla.	10	8	18	20	12.5
Pensacola, Fla.	12.5	*9	21.5	23.5	12

Kyso (Third Grade)

Lexington, Ky.	11.5	6	17.5	19	....
Louisville, Ky.	11	6	17	18	....
Paducah, Ky.	10.5	6	16.5	17	....
Covington, Ky.	11	6	17	18.5	....
Jackson, Miss.	11	7	18	19	....
Vicksburg, Miss.	10.5	7	17.5	18.5	....
Birmingham, Ala.	11	*8	19	20	....
Mobile, Ala.	11	*8	19	20	....
Montgomery, Ala.	10.5	*9	19.5	20	....
Atlanta, Ga.	10.5	7	17.5	18	....
Augusta, Ga.	10	7	17	17.5	....
Macon, Ga.	10	7	17	17.5	....
Pensacola, Fla.	11	*9	20	21.5	....

Dealer Discount: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c. To "divided" dealers: Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

Discounts to tank wagon consumers: all single deliveries of 50 gals. or less, get posted s.s. price: all single deliveries of 50 gals. or more, to be billed at posted t.w. price, plus following discounts, off posted t.w. price: Ethyl and Crown gasoline, 50 to 2,999 gals. monthly, 1.5c; Kyso, 1c; 3,000 to 24,999 gals., Ethyl and Crown, 2c; Kyso, 1.5c; 25,000 gals. or more, Ethyl and Crown, 3c; and Kyso, 2.5c.

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Birmingham, 1c city; Mobile, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax Montgomery kerosine price includes 1c city tax.

S. O. Indiana

Standard Red Crown Gasoline

Chicago, Ill.	11.5	4	15.5	17.5	10.1
Decatur, Ill.	12	4	16	18	10 1
Joliet, Ill.	12	4	16	16.5	10.1
Peoria, Ill.	12	4	16	18	10.1
Quincy, Ill.	11.8	4	15.8	17.8	9.9

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c. (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect May 18, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. Indiana (Cont'd)

Standard Red Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Indianapolis, Ind.	12 9	*5	17 9	19 9	‡14 6
Evansville, Ind.	12 7	*5	17 7	19 7	‡14 6
South Bend, Ind.	13.1	*5	18 1	20 1	‡15
Detroit, Mich	10	4	14	16	8 5
Grand Rapids, Mich.	12.4	4	16 4	18 4	9 3
Saginaw, Mich.	12.6	4	16 6	18 6	10 1
Green Bay, Wisc.	12.7	5	17 7	19 7	10 8
Milwaukee, Wisc.	11.3	5	16 3	18 3	10 4
La Crosse, Wisc.	12 4	5	17 4	19 4	10 5
Minneapolis, Minn.	12 4	4	16 4	18 4	10.5
Duluth, Minn.	12.8	4	16 8	18 8	10 9
Mankato, Minn.	12.4	4	16 4	18 4	10 5
Des Moines, Iowa	11 8	4	15 8	**18 8	9 9
Sioux City, Iowa	12	4	16	**18	10.1
Davenport, Iowa	12	4	16	**18	10 1
Mason City, Iowa	12 2	4	16 2	**18 2	10 3
St. Louis, Mo.	11 7	†4	15 7	17 7	9 8
Kansas City, Mo.	11.4	†4	15 4	17 4	9.5
St. Joseph, Mo.	11 4	†4	15 4	17 4	9.5
Fargo, N. D.	13 4	4	17 4	19 4	11 5
Minot, N. Dak.	14 6	4	18 6	20 6	12.7
Huron, S. Dak.	12 9	*5	17 9	19 9	11
Wichita, Kans.	10 9	4	14 9	16 9	7.1

Note: Kerosine s.s. prices are generally 3c above normal t.w. price.

***Stanolind Gasoline* (*Third Grade*)**

Stanolind normal prices are 1c under normal Red Crown prices, thru territory. Among subnormal points are the following:

Decatur, Ill.	11	4	15	16 5	....
Evansville, Ind.	11 7	*5	16 7	18 2	....
Indianapolis, Ind.	11 9	*5	16 9	18 4	....
Des Moines, Iowa	9 1	4	13 1	**17 8	....
St. Louis, Mo.	10 7	†4	14 7	14 7	....
Detroit, Mich.	8 5	4	12 5	14 5	....
Milwaukee, Wis.	9 8	5	14 8	16 3	....
Huron, S. D.	11 9	*5	16 9	18 9	....
Wichita, Kans.	8	4	12	14 4	....
Minneapolis, Minn.	11 4	4	15 4	15 4	....

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax. Indiana t.w. and s.s. gasoline prices include 0.2c for chain store tax.

**Service station prices for gasoline at Iowa points represent the opinion of National Petroleum News as to prices prevailing at the majority of stations.

Discounts to dealers: Effective Dec. 1, 1934, thru territory, except Michigan effective Apr. 1, 1935, and except Chicago division and Iowa, maximum discounts to controlled and uncontrolled undivided gasoline accounts, off s.s. price at normal points: Ethyl and Red Crown gasoline, 3.5c; Stanolind 2.5c; in Chicago, effective July 1, 1935, Ethyl and Red Crown, 4c; Stanolind, 3c. Divided gasoline accounts thru territory, get 0.5c less per gallon. In case of lease and agency and AAA accounts, the above discounts include the 0.5c per gal. rental allowance. In Iowa, normal dealer prices are 1.5c below normal t.w. price for first and second grade gasolines, and 0.5c under normal t.w. for third grade.

Discounts to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. price; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Purchases of less than 25 gals. get regular s.s. price.

S. O. Nebraska

Standard Red Crown Gasoline

Omaha, Neb.	12.4	6	18.4	20.4	10 4
McCook, Neb.	13.1	6	19.1	21.1	11.1
Norfolk, Neb.	12.8	6	18 8	20.8	10.8
North Platte, Neb.	13.2	6	19 2	21 2	11 2
Scottsbluff, Neb.	13.9	6	19.9	21.9	11.9

***Reliance Gasoline* (*Third Grade*)**

Omaha, Neb.	11	6	17	17	....
McCook, Neb.	11 6	6	17 6	17 9	....
Norfolk, Neb.	11.8	6	17 8	19 8	....
North Platte, Neb.	12.2	6	18 2	20 2	....
Scottsbluff, Neb.	12.9	6	18 9	18 9	....

Discount to dealers: where service station gasoline prices are normal, resellers' allowance off service station prices are (*Maximum* over-all, including rent) as follows: Reliance, 2½c; Standard Red Crown, and Solite with Ethyl, 3½c. Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (*Minimum* over-all including rent): Reliance, 2c, Standard Red Crown and Solite with Ethyl, 3c.

Discounts to consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Little Rock, Ark.	8	10.5	7.5	21 5	11.5
Alexandria, La.	8	10 5	*8	22	*11
Baton Rouge, La.	8	10 5	*7	21	*11 5
New Orleans, La.	7.25	9.5	*9	22	*12
Lake Charles, La.	8.5	11	*8	22.5	11
Shreveport, La.	7.5	10	*7	20 5	10
Lafayette, La.	8 5	11	*8	22 5	12 5
Bristol, Tenn.	9 5	10 75	8	21 5	14 5
Chattanooga, Tenn.	10	12.5	8	24	11 5
Knoxville, Tenn.	10 5	13	8	24 5	14
Memphis, Tenn.	8 5	11	8	22 5	11
Nashville, Tenn.	9 5	12	8	23.5	10

*Baton Rouge and Shreveport gasoline tax includes 5c state tax, 1c federal tax, and 1c parish tax. Alexander, Lake Charles and Lafayette, 2c parish tax. New Orleans, 3c parish tax. Louisiana kerosine prices include 1c state tax.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective Feb. 11, 1935, commercial consumers not under contract will be billed at 2.5c per gal. above posted bulk plant tank car price at time and place of delivery in lots of 50 gals. or more at one time. Contract customers will be billed at following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over tank car price; 36 000 to 119,999 gals., 2c over; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; 480,000 gals. and over, 0.5c.

On single deliveries to all classes of commercial consumers, of less than 50 gals., s.s. price at time and place of delivery applies.

Magnolia Petroleum

Mobilgas

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Muskogee, Okla.	10	5	15	19	8
Oklahoma City	10	5	15	19	8
Tulsa, Okla.	10	5	15	19	8
Fort Smith, Ark.	10 5	5	15 5	19	8
Little Rock, Ark.	10 5	7 5	18	21 5	9 5
Texarkana, Ark.	9 5	5	14 5	18 5	8 5
Dallas, Tex.	8 5	5	13 5	17	8 5
Ft. Worth, Tex.	8 5	5	13 5	17	8 5
Houston, Tex.	8 5	5	13 5	17	8 5
San Antonio, Tex.	9	5	14	18	8 5
El Paso, Tex.	10	5	15	19	8
Roswell, N. M.	11 5	†16 5	18	22	10
Santa Fe, N. M.	12.5	**7	19.5	23.5	12

***Metro Gasoline* (*Third Grade*)**

Muskogee, Okla.	7	5	12	14	....
Oklahoma City	8	5	13	16	....
Tulsa, Okla.	6	5	11	13	....
Ft. Smith, Ark.	10 5	5	15 5	15	....
Little Rock, Ark.	10 5	7 5	18	18 5	....
Texarkana, Ark.	7 5	5	12 5	14	....
Dallas, Tex.	6	5	11	13	....
Ft. Worth, Tex.	7	5	12	14	....
Houston, Tex.	6	5	11	13	....
San Antonio, Tex.	8	5	13	14	....
El Paso, Tex.	6 5	5	11 5	13 5	....
Roswell, N. M.	8	††6 5	14.5	17.5	....
Santa Fe, N. M.	9	**7	16	19	....

*In Texarkana, 4c Texas tax applies; outside Texarkana, 6.5c Arkansas tax applies.

†In Fort Smith, 4c Oklahoma tax applies outside Fort Smith, 6.5c Arkansas tax applies.

**Includes 1c city tax.

††Includes 0.5c city tax.

Note: *Price basis to dealers* off s.s. price in t.w., bulk or bbl. deliveries, on Mobilgas and Ethyl, normally: to 100% dealers, 4c; to divided dealers, 3.5c, except Texas no discount. On Metro gasoline in Texas, Oklahoma and New Mexico: to 100% dealers, 3c; to divided dealers, 2.5c, except Texas no discount. On Metro, in Arkansas and Louisiana: to 100% dealers, 3.25c.

Price basis to consumers: Thru Texas, effective Jan. 1, 1936, New Mexico, effective Jan. 18, and Oklahoma, effective Feb. 20, all grades of gasoline invoiced on the same graduated scale as now allowed 100% dealers, which see in above paragraph. Thru Arkansas and Louisiana, all grades gasoline invoiced at consumer's t.w. price, which on Mobilgas and Ethyl, normally is 3.5c less than s.s. price, less following contract quantity discounts at end of month, on all three grades, on monthly purchases: 3,001 to 10,000 gals., 0.5c; 10,001 to 20,000 gals., 1c; 20,001 to 40,000 gals., 1.5c; and 40,001 gals. and over, 2c. Metro invoiced at same price as Mobilgas.

Continental Oil

Conoco Bronze Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Denver, Colo.	13	5	18	20	11
Pueblo, Colo.	13	5	18	20	13
Grand Junction, Col.	16	5	21 5	23 5	15
Casper, Wyo.	14.5	5	19 5	21 5	11.5
Cheyenne, Wyo.	14.5	5	19 5	21 5	13
Billings, Mont.	16.5	6	22 5	24 5	14.5
Butte, Mont.	15	6	21		14.5
Great Falls, Mont.	16 5	6	22 5	24 5	14.5
Helena, Mont.	16.5	6	22 5	24 5	14.5
Salt Lake City, Utah.	16	5	21	23	16
Boise, Ida.	16 5	6	22.5	24 5	18
Twin Falls, Ida.	17	6	23	25	18
Albuquerque, N. M.	12	†6 5	18 5	20 5	13

***Demand* (*Third Grade*)**

Denver, Colo.	11	5	16	18	....
Cheyenne, Wyo.	12 5	5	17.5	19 5	....
Helena, Mont.	14.5	6	20 5	22 5	....
Salt Lake City, Utah.	14	5	19	21	....
Boise, Ida.	14.5	6	20 5	22 5	....
Albuquerque, N. M.	8 5	†6.5	15	17	....

†Includes city tax of 0.5c.

Discounts: effective March 1, 1934, on gasolines thru territory, except Montana, off s.s. price: to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c; to "divided" dealers: Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c. Thru Montana, effective March 24, 1936, on gasoline, off t.w. price to "undivided" dealers: Ethyl and Conoco Bronze, 2c; Demand, 1c; to "divided" dealers: Ethyl and Conoco Bronze, 1.5c; Demand 0.5c.

S. O. California

Standard Gasoline

San Francisco, Cal.	13	4	17	18	11.5
Los Angeles, Cal.	12.5	4	16 5	17 5	9
Fresno, Cal.	13.5	4	17.5	18 5	11
Phoenix, Ariz.	15	6	21	22	†16
Reno, Nev.	14.5	5	19.5	20 5	13
Portland, Ore.	13.5	6	19 5	20 5	13.5
Seattle, Wash.	13.5	6	19 5	20 5	13.5
Spokane, Wash.	16 5	6	22 5	23 5	16.5
Tacoma, Wash.	13.5	6	19 5	20 5	13.5

***Flight Gasoline* (*Third Grade*)**

San Francisco, Cal.	11.5	4	15.5	16 5	....
Los Angeles, Cal.	11	4	15	16	....
Fresno, Cal.	12	4	16	17	....
Reno, Nev.	13	5	18	19	....
Phoenix, Ariz.	13.5	6	19 5	20 5	....
Portland, Ore.	12	6	18	19	....
Seattle, Wash.	12	6	18	19	....
Spokane, Wash.	15	6	21	22	....
Tacoma, Wash.	12	6	18	19	....

†Includes 5c state tax.

Discount to dealers: effective March 3, 1936, on gasoline, off t.w. price; on Stanavo Aviation, to 100% dealers, 2c; split dealers, 1c; on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

To commercial consumers: effective March 3, 1936, off tank wagon price: on single deliveries of 40 gallons and over, advance quantity discount from above prices extended at time of delivery on Stanavo Aviation and Flight Gasoline, 2c per gallon; Standard Ethyl and Standard Gasolines, 3c. S.s. schedule applies on single deliveries less than 40 gallons.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

Prices of Imperial Oil Ltd.

Per Imperial Gallon, which is 1.2 U. S. Gallons

Imperial Three Star Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Hamilton, Ont.	15	6	21	23.5	17
Toronto, Ont.	15	6	21	23 5	17
Brandon, Man.	23.8	7	30 8	33 8	22.3
Winnipeg, Man.	22.2	7	29.2	32 2	20.7
Regina, Sask.	23.5	7	30.5	33 5	22
Saskatoon, Sask.	26.3	7	33.3	36 3	24.8
Edmonton, Alta.	25.7	7	32.7	35.7	24.2
Calgary, Alta.	23	7	30	33	21.5
Vancouver, B. C.	19	7	26	29	24
Montreal, Que.	13.5	6	19 5	22	17.5
St. John, N. B.	17	8	25	29	19.5
Halifax, N. S.	17	8	25	29	19.5

Discounts to dealers:

Maritime Provinces, 4c per gallon off s.s. price to all classes of dealers. Quebec, except Montreal City, Prairie Provinces and British Columbia, 3c to divided dealers, 4c to undivided dealers. Ontario and Montreal City, 2½c to divided dealers, 3½c to undivided dealers.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect May 18, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil and Magnolia Pet. Co.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect May 18, 1936

S. O. New Jersey

	Tank Car	T.W.
Bayonne, N. J.	10	12
Baltimore, Md.	10	12
Washington, D. C.		12.6
Richmond Va.		14.2
Greensboro, N. C.		14.7
Raleigh, N. C.		16.6
Charleston, W. Va		14.2

Colonial Beacon Oil Co.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass.	14.5

S. O. Pennsylvania

Philadelphia, Pa.	14.1
Pittsburgh, Pa.	14.9

S. O. Louisiana

New Orleans, La.	12.3
Shreveport, La.	12.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.s. prices in abovef our territories are generally 6c over t.w. prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight plus 2.5c per gal.

S. O. Ohio

Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethyl Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price.

S. O. Indiana

Chicago, Ill	15	4	19
Indianapolis, Ind.	15.9	5	20.9
Detroit, Mich.	16.5	4	20.5
Milwaukee, Wisc.	15.3	5	20.3
Minneapolis, Minn.	15.4	4	19.4
St. Louis, Mo.	13.7	*4	17.7
Kansas City, Mo.	14.4	*4	18.4
Fargo, N. D.	16.4	4	20.4
Huron, S. D.	15.9	5	20.9
Wichita, Kans.	13.9	4	17.9

*Includes 1c city tax
**Includes 0.1c to cover sales tax.

Magnolia Petroleum

Dallas, Tex	11.5	5	16.5

Humble Oil & Refining Co.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

Continental Oil Co.

	T.W.	Tax	Total T.W.
Denver, Colo.	16	5	21
Cheyenne, Wyo.	17.5	5	22.5
Helena, Mont.	19.5	6	25.5
Salt Lake City, Utah.	19	5	24
Albuquerque, N. M.	15	*6.5	21.5

*Includes city tax of 0.5c.

S. O. California

Phoenix, Ariz.	16	6	22
Los Angeles, Cal.	13.5	4	17.5
San Francisco, Cal.	14	4	18
Reno, Nev.	15.5	5	20.5
Portland, Ore.	14.5	6	20.5
Seattle, Wash.	14.5	6	20.5
Spokane, Wash.	17.5	6	23.5

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha

In Effect May 18, 1936

(Net price in Tank Wagon; in Cents per Gallon)

	Mineral Spirits	V.M.&P. Naphtha
S. O. New Jersey		
Baltimore, Md.	14	15.5
Newark, N. J.	12.5	14.5
Washington, D. C.	14	*17.5

*Steel bbls. only.

Socony-Vacuum Oil Co.		
Buffalo, N. Y.	11.5	12.5
New York City	10.5	11.5
Rochester, N. Y.	12	....
Syracuse, N. Y.	14	....
Boston, Mass.	13	13.5
Bridgeport, Conn.	13	13.5
Providence, R. I.	13	14
Atlantic Refining Co.		
Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	14.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V. M. & P. Naphtha apply also to Light Cleaners Naphtha. 2c off above t.w. prices to large buyers in some instances.

S. O. Ohio

	S. R. Solvent	V.M.&P. Naphtha
Thru Ohio	14	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices.

S. O. Indiana

	Mineral Spirits	V.M.&P. Naphtha	Stoddard Solvent
Chicago, Ill.	16.2	16.5	14
Detroit, Mich.	17.9	19	18
Kansas City, Mo.	13.9	14.9	13.9
St. Louis, Mo.	14.2	15	13.5
Milwaukee, Wis.	18.8	19.8	18.8
Minneapolis, Minn.	17.9	18.9	16.4

Note: Prices for V.M.&P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F.o.b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M. & P. Naphtha	Solvent
Baltimore	10	9.5
New York Harbor	10	9
Philadelphia district	10	9.5
Providence	10	9.5
Ohio points, delivered	9.25	*9.5

*This is on S.R. solvent.

Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

From May 12 to May 18 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.

S. O. New York—Socony Mobilgas:

Danbury and Hartford, cut 1c, May 14.

Atlantic Refining—Kerosine:

Fall River, cut 0.25c, May 12.

S. O. Ohio—X-70:

Ashtabula, Champaign, Clarke and Lucas Counties, t.w. cut 1c, s.s. cut 2c, May 18.

Renown:

Ashtabula and Lucas Counties, t.w. cut 1c, s.s. cut 2c, May 18.

Champaign and Clarke Counties, t.w. cut 1.5c, s.s. cut 3.5c, May 18.

S. O. Indiana—Red Crown:

Chicago, up 0.5c, May 14.

Magnolia Petroleum—Mobilgas:

San Antonio, t.w. up 1c, s.s. up 2c, May 15.

Metro:

San Antonio, t.w. up 0.5c, s.s. up 1c, May 15.

Continental Oil—Conoco Bronze:

Great Falls, up 2.5c, May 14.

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.

Atlantic Refining—White Flash Plus:

Scranton, t.w. cut 0.25c, May 2.

Camden, t.w. cut 0.7c, s.s. cut 1.7c, May 5.

Kerosine:

Boston, cut 0.5c, May 5.

Providence, cut 0.25c, May 6.

Baltimore, cut 0.5c, March 31.

Colonial Beacon—Aviation:

Buffalo, up 0.4c, May 1.

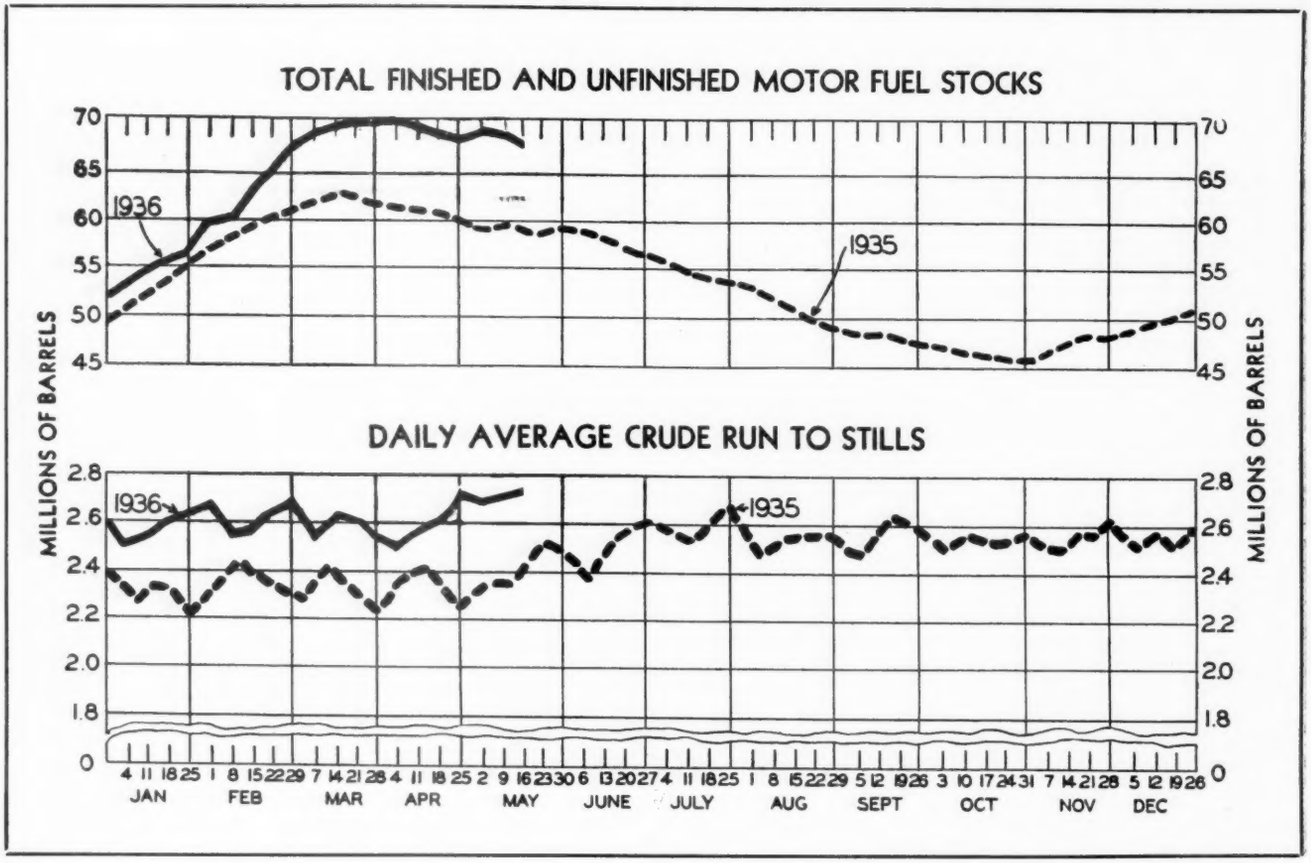
Sue For Alleged Unpaid Gas-Tax

NEW YORK, May 18.—Civil suits to recover alleged unpaid gasoline taxes have been filed in chancery court in Hinds county, Miss., against two operators within the state, according to information received by the American Petroleum Industries Committee. The suits are based on evidence gathered by the joint legislative investigating committee which was appointed at the last session of the legislature.

One suit alleges that R. A. Billups, Greenwood, Miss., is delinquent with $55,371 back tax payments on 922,852 gallons of gasoline. The other suit charges the Delstate Petroleum Co., Greenville, Miss., with being behind on payments of $30,015 on 500,000 gallons of gasoline. The Mississippi state tax is 6 cents a gallon.

SAN FRANCISCO—Bids will be called soon for 304 miles of 6⅝ to 10¾-inch pipe line from Bakersfield to Martinez, Calif., for the Shell Oil Co.

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.


TOTAL FINISHED AND UNFINISHED MOTOR FUEL STOCKS
MILLIONS OF BARRELS
70
65
60
55
50
45
1936
1935
DAILY AVERAGE CRUDE RUN TO STILLS
MILLIONS OF BARRELS
2.8
2.6
2.4
2.2
2.0
1.8
0
1936
1935
4 11 18 25 1 8 15 22 29 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Motor Fuel Stocks Decline 999,000 Barrels

NEW YORK, May 19

A DECREASE of nearly 1,000,000 barrels in total motor fuel stocks the week ended May 16 was accompanied by an increase of 49,000 barrels in daily average crude runs to stills at plants operating at 79 per cent capacity, the American Petroleum Institute reports.

Motor fuel stocks, which decreased 217,000 barrels the week ended May 9, decreased 999,000 barrels further the past week to 67,622,000 barrels. Most of this was in refinery stocks which declined 661,000 barrels, to 40,194,000 barrels. In-transit and terminal stocks declined 352,000 barrels, to 20,818,000 barrels, while stocks of unfinished gasoline increased 14,000 barrels, to 6,610,000 barrels.

The largest increase in crude runs was at California refineries where they were stepped up 25,000 barrels. Other smaller increases in other refining centers, except East Coast and Louisiana Gulf, accounted for the rest of the increase.

The largest decline in motor fuel stocks was at East Coast plants, where they declined 765,000 barrels. Only three districts showed gains in stocks, with California reporting a gain of 194,000 barrels. The other increases were negligible. A decrease of 123,000 barrels in Indiana-Illinois-Kentucky stocks and of 102,000 barrels in the Texas Gulf accounted chiefly for the rest of the country's decline in stocks.

CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Total Finished and Unfinished Motor Fuel*		Total Finished and Unfinished Gas & Fuel Oil		Cracked Gasoline Production % Total Capacity Reporting	Daily Av. Production (Barrels) Week Ended	
		May 16	May 9	May 16	May 9	May 16	May 9	May 16	May 9		May 16	May 9
East Coast	100.0	489,000	494,000	79.9	80.7	19,681	20,446	8,003	7,692	100.0	96,000	106,000
Appalachian	94.8	100,000	97,000	68.5	66.4	2,614	2,698	442	437	98.7	21,000	23,000
Ind., Ill., Ky.	95.9	408,000	400,000	96.2	94.3	11,147	11,270	3,267	3,057	99.7	125,000	123,000
Okla., Kans., Mo.	84.8	295,000	287,000	76.8	74.7	7,579	7,588	2,666	2,587	89.1	65,000	66,000
Inland Texas	48.5	108,000	99,000	67.5	61.9	1,510	1,595	1,695	1,673	70.9	26,000	26,000
Texas Gulf	96.8	598,000	596,000	90.9	90.6	8,222	8,324	6,597	6,422	78.5	155,000	153,000
La. Gulf	96.4	116,000	124,000	71.2	76.1	1,737	1,776	1,926	1,988	96.1	19,000	22,000
No. La., Ark.	90.0	51,000	50,000	70.8	69.4	425	417	389	376	95.7	9,000	9,000
Rocky Mt.	61.9	47,000	41,000	78.3	68.3	1,562	1,556	730	734	84.8	14,000	10,000
California	92.6	528,000	503,000	66.9	63.8	13,145	12,951	71,134	71,313	100.0	67,000	68,000
Total Reporting	89.6	2,740,000	2,691,000	79.0	77.6	67,622	68,621	96,849	96,279	95.9	597,000	606,000
Estimated U. S. Total (Bur. of Mines Basis.)		2,920,000	2,870,000			72,490	73,489	99,120	98,550		645,000	650,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.

INDUSTRIAL
Fuel
IN DEMAND

DEMAND for light fuel oils came to a virtual standstill the week ended May 16. Heavy fuels still were getting good play in most markets as industrial operations continued at a fairly high rate.

Prices for the light grades of fuel oil were easy to lower as refiners shaded prices in an effort to cut their stocks. The only exception was the No. 1 oil which still was getting considerable play in some markets because of its adaptability as a tractor fuel.

For the most part the heavy grades of fuel were firm. On the eastern seaboard some suppliers reported difficulty in obtaining enough oil to meet their commitments. In the Mid-Continent, however, heavy fuels were a bit freer.

* * *

TULSA, May 16.—Downward price revisions featured the Mid-Continent fuel oil market the week ended May 16. Most grades were experiencing the usual end-of-the-season buying lull. In most cases it was not the top-heaviness of stocks that caused prices to taper off, but the lack of buying interest. As a result, suppliers generally made price concessions in order to move the odd cars they wished to dispose of.

No. 1 fuel probably was the most active item on the market, since this product was being used as a substitute tractor fuel. Buyers reported this product especially tight.

Nos. 2 and 3 oils were sluggish and price recessions were fairly general.

There were some indications that heavy fuels were not in such good statistical position as they had been recently. An occasional reduction in prices could have been construed as confirmation of this point, but refiners generally said outlets were being found for all offerings. Increased crude runs at refineries, some observers pointed out, may cause a top-heavy condition of stocks. This condition, however, has not yet developed.

* * *

CHICAGO, May 16.—Light fuel oils, for domestic heating purposes, were experiencing their usual in-between-season decline, both in price and demand, in the Mid-Western tank car market. Sales, when consummated, generally departed from quoted prices, at times as much as 0.25 to 0.5 cent.

No. 1 prime white fuel oil was less active as demand for other than heating purposes waned. Prices were somewhat easier.

Industrial fuels bore the brunt of market activity. Demand was reported fair to good. While no higher prices were noted, prevailing quotations were maintained in all quarters.

* * *

NEW YORK, May 16.—Heavy fuel oils were getting a good play at eastern seaboard terminals during the week ended May 16, while lighter oils suitable for domestic burner use were not in demand.

Suppliers continued to report a comparative shortage of heavy fuel, particularly at New York harbor, and said they were having a hard time taking care of their commitments. Some still were having to buy or borrow to supply their regular customers and several said they had been forced to pay the full market price.

Reports persisted that the shore-plant prices of bunker oil would be advanced along the Atlantic seaboard, but up to the end of the week no companies had announced any changes. Some suppliers were anxious for a price rise, pointing out that the higher cargo markets at the Gulf, coupled with a steady charter rate for dirty boats, was again causing too narrow a spread between laid down cost and selling prices.

FUEL OILS

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

Prices in Effect May 18, 1936

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	7.25	6.50	6.50	6.50
Atlantic City, N. J.	8	6.5	6.5	6
Baltimore, Md.	8	6	6	5.5
Washington, D. C.	8.00	6.75	6.75	6.75

Discounts: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

Socony-Vacuum Oil Co., Inc.
(S. O. New York Division)

New York City	7	6.75	6.75	6.25
Albany, N. Y.	7.75	7.25	7.25	6.75
Rochester, N. Y.	8.25	7.00	7.00	7.00
Boston, Mass.	7.5	6.50	6.50	6.50
Bangor, Me.	8	6.50	6.50	6.50
Manchester N. H.	8	6.75	6.75	6.75
Burlington, Vt.	8.75	7.75	7.75	7.75
New Haven, Conn.	7.5	6.25	6.25	6.25
Providence, R. I.	7.25	6.50	6.50	6.00

Discounts: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals., 0.5c.

Atlantic Refining

Philadelphia, Pa.	7.50	6.25	6.25	5.75
Allentown, Pa.	8	6.75	6.75	6.75
Wilmington, Del.	7.50	6.25	6.25	5.75
Springfield, Mass.	7.50	7	..	7
Worcester, Mass.	7.75	7.25	..	7.25
Hartford, Conn.	7	7	..	7

S. O. Ohio

Ohio Statewide	8	7.75	7.50	7.25

Note: S. O. Ohio prices are for hose dumps; bucket dumps are 0.5c per gallon higher.

S. O. Indiana
Stanolex Fuel Oil

	No. 1	No. 3
Chicago	7.25	6.5
Indianapolis	*11.7	*11.2
Detroit	6.8	6.8
Milwaukee	8	7
Minneapolis	8.2	7.2
Sioux City	8.8	6.4
St. Louis	7.2	6.5
Kansas City	6.6	5.9

*Includes state tax of 4c.

Note: Small-lot deliveries of light fuel oils range from 0.5c to 1.5c higher than above quotations.

LOS ANGELES—The Texas Co. has placed an order with Consolidated Steel Corp., Los Angeles for three 55,000 barrel storage tanks.

Seek to Prevent Rodessa Crude Movement

By Teletype

TULSA, May 19.—Hearing will be held May 21, by Judge Randolph Bryant on the merits of application by the U. S. Department of Justice for restraining order to prevent movement of 71,374 barrels of Rodessa crude stored in East Texas. Defendants in the action are the Texas-Empire Pipe Line Co., East Texas Refining Co., and East Texas Pipe Line Co. Contention of the government is that the oil is contraband under the terms of the Connally law.

The oil in question was produced by Pelican Oil and Gasoline Co., moved into the East Texas field by the East Texas Pipe Line Co., for delivery to Texas Empire Pipe Line Co., which was to transport it to the Gulf coast for the account of the Tide Water Oil Co. The latter had contracted with the East Texas Pipe Line Co. to buy a half million barrels of Rodessa oil.

Attorneys for the defendant companies agreed to impound the oil pending judicial settlement of the case.

Airline Gasoline Use Gains

NEW YORK, May 16.—An increase of 32 per cent in gasoline consumption by U. S. airlines engaged in scheduled commercial flying was reported in 1935 over consumption in 1934, according to reports to the American Petroleum Institute.

Total consumption of gasoline on scheduled flights in 1935 amounted to 33,260,609 gallons. Consumption of lubricating oil also was higher, a total of 879,775 gallons being used which was a gain of 5 per cent over consumption in 1934.

Stocker Joins Lubrication Corp.

CHICAGO—J. P. Stocker, formerly assistant to the manager of bulk lubricating oil sales for Standard of Indiana, has accepted a position as assistant sales manager of the Lubrication Corp. here.

John M. Gower takes over Mr. Stocker's duties with the Indiana company.

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of sales and quotations to jobbers and/or consumers. Florida and S. Carolina inspection tax not included.)

*Motor Gasoline

Prices May 18	60-64 Octane	65 Octane and Above
New York harbor	6.75 – 7.00	7.00 – 7.25
New York harbor, barges	6.50 – 6.75	6.75 – 7.00
Philadelphia district	6.75	7.00
Baltimore district	6.75	7.00
Norfolk district	6.75	7.00
Wilmington, N. C. district	6.75	7.00
Charleston, S. C., district	6.75	7.00
Savannah district	6.75	7.00 – 7.25
Jacksonville district	6.75	7.00 – 7.25
Portland district	7.25	7.50
Boston district	6.75 – 7.00	7.00 – 7.25
Boston district, barges	6.50 – 6.75	6.75 – 7.00
Providence district	7.00	7.25
Providence district, barges	6.75	7.00

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

Water White Kerosine

Prices May 18			
New York harbor	4.625	Savannah district	5.50 – 5.75
N. Y. harbor, barges	4.50	Jacksonville district	5.50 – 5.75
Philadelphia district	4.875– 5.00	Portland district	5.50
Baltimore district	5.00	Boston district	5.00
Norfolk district	5.00	Boston dist., barges	4.875
Wilmington, N. C.	5.00	Providence district	5.00
Charleston, S. C., dist.	5.25	Providence, barges	4.875

*Fuel Oils

Prices May 18	New York harbor	New York harbor, barges	Philadelphia district
No. 1	4.625	4.50	4.875– 5.00
No. 2	4.25	4.125	4.50
No. 3	4.25	4.125	4.50
No. 4	4.00	3.875	4.00
No. 5 (per barrel)	$1.35	.....	$1.25
No. 6 (per barrel)	$1.05	.....	$1.05

	Baltimore district	Boston district
No. 1	5.00	5.00
No. 2	4.50	4.375– 4.50
No. 3	4.50	4.375– 4.50
No. 4	4.25	4.375
No. 5 (per barrel)	$1.25	$1.25
No. 6 (per barrel)	$1.05	$1.05

	Boston dist., barges	Providence district	Providence dist., barges
No. 1	4.875	5.00	4.875
No. 2	4.25 – 4.375	4.375– 4.50	4.25 – 4.375
No. 3	4.25 – 4.375	4.375– 4.50	4.25 – 4.375
No. 4	4.25	4.00	3.875

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

	Bunker Oil Grade C Per Barrel	Diesel Oil Ships' Bunkers Per Barrel	Gas Oil 28-34 Gravity Per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	*$1.05	*$1.65	4.50	4.50
Philadelphia dist.	*$1.05	*$1.65	4.50	....
Baltimore district	*$1.05	*$1.65	4.50	....
Norfolk district	*$1.05	*$1.65	4.50	....
Charleston district	$1.00	$1.65	....	....
Savannah district	$1.00	$1.89	....	4.75
Jacksonville dist.	$1.00	$1.995	....	4.75
Tampa district	$1.00	$1.995	....	....
Portland district	$1.15	$1.75	....	....
Boston district	$1.05	*$1.65	....	....
Providence district	$1.05	$1.65	....	....

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices—	May 18	May 11	May 4
53-55 U. S. Motor	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50
400 e.p. blend 65 Octane and above	5.25 – 6.00	5.25 – 6.00	5.25 – 6.00
38-40 w.w. kerosine, 150 fire point	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00
41-43 w.w. kerosine	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
44 water white kerosine	5.00	5.00	5.00
Prime wh. kerosine	3.00 – 4.25	3.00 – 4.25	3.00 – 4.25
In Cargo lots, per barrel:			
Diesel fuel oil, above 23.9°	$1.05 –$1.20	$1.05 –$1.20	$1.05 –$1.20
Diesel fuel oil, under 23.9°	$1.00 –$1.10	$1.00 –$1.10	$1.00 –$1.10
30-34 gas oil	$0.90 –$1.10	$0.90 –$1.10	$0.90 –$1.10
Grade C fuel oil	$0.75 –$0.85	$0.75 –$0.85	$0.75 –$0.85

Pacific Export (cont'd)	May 18	May 11	May 4
In Ships' Bunkers, or deep tank lots, per barrel:			
Diesel fuel oil, above 23.9 gravity	$1.125–$1.25	$1.05 –$1.25	$1.125–$1.25
Diesel, under 23.9 gravity	$1.025–$1.15	$1.025–$1.15	$1.025–$1.15
Grade C fuel oil	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
Cased Goods:			
Gasoline, U. S. Motor	$1.35 –$1.50	$1.35 –$1.50	$1.35 –$1.50
Gasoline, 400 e.p. blend	$1.50 –$1.65	$1.50 –$1.65	$1.50 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.20 –$1.30	$1.20 –$1.30	$1.20 –$1.30
Kerosine, prime white	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25

New York Export

(Prices in cents per gallon in barrels. F.a.s. New York)

Cylinder Oils (Pennsylvania Products)

Bright stock:			
Light, 25 pour point	28.00 –28.50	28.00 –28.50	28.00
Dark, 25 pour point	27.50 –28.00	27.50 –28.00	27.50
Neutral oil:			
200 3 color, 25 pour point	27.50	27.00 –27.50	27.00
150 3 color, 25 pour point	24.00	23.50	23.00 –23.50
600 Warren E filtered	22.00	22.00	22.00
600 stm. rfd. unfiltered	20.00	20.00	19.50
650 stm. rfd. unfiltered	21.00	21.00	20.50
600 flash, steam refined	22.00	22.00	21.50
630 flash, steam refined	24.50	24.50	24.50

Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk.)

	New York		New Orleans	
Prices—May 18	*Domestic*	*Export*	*Domestic*	*Export*
124-6 Y.C. scale	2.35 – 2.45	2.35 – 2.45	2.35 – 2.45	2.35 – 2.45
122-4 W.C. scale	2.35 – 2.45	2.35 – 2.45	2.35 – 2.45	2.35 – 2.45
124-6 W.C. scale	2.35 – 2.45	2.35 – 2.45	2.40 – 2.50	2.40 – 2.50
123-5 Fully refined	4.45	4.125	4.45	4.125
125-7 Fully refined	4.55	4.25	4.55	4.25
128-30 Fully refined	4.80	4.50	4.80	4.50
130-2 Fully refined	5.05	4.75	5.05	4.75
133-5 Fully refined	*5.35	5.25	*5.35	5.25
135-7 Fully refined	*5.60	5.50	....	....

*Shipment either in bags or in bulk.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing sellers' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

Motor Gasoline

For Domestic Shipment

Prices—	May 18	May 11	May 4
59 octane and below	5.625– 5.75	5.625– 5.75	5.625– 5.75
60-64 octane number	6.00	6.00	6.00
65 octane and above	6.125– 6.25	6.125– 6.25	6.125– 6.25

Fuel Oils

No. 1 Fuel oil	3.75	3.75	3.75
No. 2 Fuel oil	3.50	3.50	3.50
No. 4 Fuel oil	3.125	3.125	3.125

*Sale only.

Kerosine

41-43 w.w.	3.75	3.75	3.75

Gasoline

For Export Shipment

U. S. Motor gasoline	5.50	5.50	5.50
60-62, 400 e.p. gasoline	5.50	5.50	5.50
61-63, 390 e.p. gasoline	5.625	5.625	5.625
64-66, 375 e.p. gasoline	5.75	5.75	5.75

Kerosine

44 water white	4.25	4.25	4.25
41-43 water white	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875
41-43 prime white	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875

(Continued on next page)

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

(Continued from preceding page)

Gas and Bunker Oils

For Domestic and/or Export Shipment

Prices—	May 18	May 11	May 4
*26-30 translucent gas oil	3.125- 3.25	3.125- 3.25	3.125- 3.25
*30 plus translucent gas oil	3.125- 3.25	3.125- 3.25	3.125- 3.25
*30 plus transp. gas oil	3.25	3.25	3.25
Diesel Oil Ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ships' bunkers, per bbl	†$0.90	†$0.90	†$0.90
Grade C bunker oil, per bbl. in cargoes	‡$0.80 -$0.85	‡$0.80 -$0.85	$0.80

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl additional.

Mexican Crude and Bunker Oils

(F.o.b. Steamer, Tampico)

Heavy Panuco crude taxes to be paid, per bbl	$0.75 -$0.78	$0.73 -$0.75	$0.73 -$0.75
Grade C bunker oil, ships' bunkers, taxes paid, per bbl	$0.90	$0.90	$0.90

Mid-Continent Lubricating Oils

(Prices in cents per gallon in bbls. f.a.s. Gulf terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 brt. stk	26.50	26.50	26.50
150-160 vis. D. 210 brt. stk:			
0-10 pour point	23.50	23.50	23.50
10-25 pour point	23.00	23.00	23.00
25-40 pour point	22.50	22.50	22.50
150-160 vis. E 210 brt. stock	22.50	22.50	22.50
120 vis D 210 bright stock	22.00	22.00	22.00
180 vis. No. 3 color neutral oil:			
0-10 pour point	17.25 -17.50	17.25 -17.50	17.25 -17.50
15-30 pour point	16.25 -16.50	16.25 -16.50	16.25 -16.50
200 vis. No. 3 color neutral oil:			
0-10 pour point	17.75 -18.00	17.75 -18.00	17.75 -18.00
15-30 pour point	16.75 -17.00	16.75 -17.00	16.75 -17.00

Mid-Continent Lubricating Oils Cont'd

Prices—	May 18	May 11	May 4
600 s.r. olive green	12.50	12.50	12.50
600 s.r. dark green	11.00 -11.25	11.00 -11.25	11.00 -11.25
631 s.r.	18.00	18.00	18.00

South Texas Lubricating Oils

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Unfiltered Pale Oils:

Vis. Color			
100 No. 3	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 3	6.375- 7.00	6.375- 7.00	6.375- 7.00
300 No. 3	7.00 - 7.50	7.00 - 7.50	7.00 - 7.50
500 No. 3½	7.875- 8.50	7.875- 8.50	7.875- 8.50
750 No. 4	9.00 - 9.25	9.00 - 9.25	9.00 - 9.25
1200 No. 4	9.25 - 9.50	9.25 - 9.50	9.25 - 9.50
2000 No. 4	9.75 -10.25	9.75 -10.25	9.75 -10.25

Red Oils:

Vis. Color			
100 No. 5-6	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 5-6	6.125- 6.75	6.125- 6.75	6.125- 6.75
300 No. 5-6	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00
500 No. 5-6	7.25 - 7.625	7.25 - 7.625	7.25 - 7.625
750 No. 5-6	9.00 - 9.25	9.00 - 9.25	9.00 - 9.25
1200 No. 5-6	9.25 - 9.50	9.25 - 9.50	9.25 - 9.50
2000 No. 5-6	9.75 -10.25	9.75 -10.25	9.75 -10.25

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shipments per ton of 2240 pounds. British sterling: to U. S. ports, cents per barrel)

Rates—May 18	Crude &/or Fuel Last Paid	Crude &/or Fuel Owners Ask	Refined Oil &/or Spirits Last Paid	Refined Oil &/or Spirits Owners Ask
Calif. U.K./Cont.*	20/6	20/-21/	20/	20/-21/
Gulf-U.K./Cont.*	14/	14/-15/	15/	14/6-15/
Calif.-N. Atlantic (not E. of N. Y.)	....	‡55c	...	‡55c
Gulf-N. Atlantic** (not E. of N. Y.)	†19c	†19-20c	18c	18-19c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading same rate: Tampico 2c to 3c per bbl. additional.

†Rates for heavy crude or fuel 1c to 2c higher than for light crude.

‡Nominal

Few Long-Term Bidders On U. S. Gasoline

WASHINGTON, May 16.—Maximum prices quoted by oil companies bidding May 14 for federal gasoline business in Dallas and San Antonio during the July-September quarter were several cents higher than current tank wagon prices. No quantity discounts were offered.

The Treasury Procurement Division asked for bids on a 3-, 6- and 12-month basis but few bids were received for the longer periods. All bidders on these two cities quoted posted commercial consumer tank wagon price except Pioneer Oil & Refining Co. which did not specify whether or not its tank wagon price was a "commercial consumer" price.

Sinclair Refining Co. stated that its applicable price would be "the bidder's official established tank wagon market price for the grade of gasoline delivered as posted at bidder's bulk plant from which delivery is made which prices for the purpose of this bid only shall also be known as the bidder's commercial consumer's posted tank wagon price."

Pioneer was the only bidder offering a time discount—one per cent for 10 days.

The bidding was, as follows:

DALLAS, 15,000 gallons of G-101 (third grade) over 3 months: Texaco, Gulf, Humble, Panhandle, Sinclair and Magnolia all bid 10 cents as a maximum price for the 3-month period. The Texas Co. also bid 10 cents for the 6 month period.

SAN ANTONIO, 10,000 gallons of G-101 over 3 months: Texaco, Gulf, Humble, Panhandle, Sinclair and Magnolia all bid 10 cents and Pioneer, 9 cents, as their maximum prices for the 3-month period. Texaco also bid 10 cents for the 6-month period. Pioneer bid 9.5 cents for the 6- and 12-month periods.

Magnolia offered to take contracts for the two cities on a 6- or 12-month basis at posted consumer tank wagon price but apparently did not quote a maximum price for these longer periods as required by the TPD.

Big Penalty Assessed

TULSA, May 16.—Judgment for $27,850 was entered last week by Judge W. F. Robertson, Travis county district court, in favor of the state against the Minor Pipe Line Co. and V. E. Jackson, T. W. Sowell and J. B. Sowell. The state had sued for penalties of $429,000 on allegations of overproducing, transporting and receiving illegal oil and refusal to permit examination of records

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a.m. of dates as given.

Eastern Fields

Posted by Joseph Seep Purchasing Agency

(Effective Jan. 13, 1936)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.17
Penna. Grade Oil in Eureka Pipe Lines (West Virginia).....$2.12
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$1.97
Corning Oil in Buckeye Pipe Lines (Ohio) $1.42

Posted by Other Companies

Tide Water Pipe Co., Ltd.
Bradford-Allegheny district (Penna. and N. Y.) (Effective Jan. 13, 1936)..$2.45
*The Pennzoil Co.: (Effective Jan. 13, 1936)
Penna. Grade Oil in National Transit Lines*.....$2.42
Ashland Oil & Transportation Co.:
Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 9, 1936)
Big Sandy River.....$1.30
Kentucky River.....$1.38

*The Pennzoil Co. posts $2.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.37 per bbl. at well.

Michigan

Posted by Pure Oil Co.

Midland, Midland County (Jan. 14, 1936) $1.32

Posted by Simrall Pipe Line Corp.

(Effective Jan. 14, 1936)

West Branch and equal grades.....$1.16
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.32

Central States Fields

Posted by Ohio Oil Co.

(Effective Jan. 9, 1936)

Illinois, Princeton, Western Kentucky..$1.23
(Effective Jan. 10, 1936)
Lima.....$1.25

Posted by Stoll Oil Refining Co.

(Effective Jan. 9, 1936)

Stoll Pipe Line Oil (Ky.).....$1.28

Canadian Fields

Posted by Imperial Oil Refineries, Ltd.

Western Ontario

(Effective Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Feb. 3, 1936)

Crude:		Naphtha:	
40-44.9	$1.55	†Clear	$2.70
45-49.9	2.12	†Discolored	2.46
50 and above	$2.32		

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

Mid-Continent

Posted by Stanolind Crude Oil Purchasing Co.

(Effective Jan. 9, 1936)

(In Oklahoma-Kansas)	(In North-North Central Texas)
Below 29	$0.94	$0.84
29-29.9	0.96	0.86
30-30.9	0.98	0.88
31-31.9	1.00	0.90
32-32.9	1.02	0.92
33-33.9	1.04	0.94
34-34.9	1.06	0.96
35-35.9	1.08	0.98
36-36.9	1.10	1.00
37-37.9	1.12	1.02
38-38.9	1.14	1.04
39-39.9	1.16	1.06
40 and above	1.18	1.08

Above Stanolind prices met as follows:

Jan. 9, by The Texas Co. in North and North Central Texas; Continental Oil in all three states.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content

Posted by Carter Oil Co.

In Oklahoma

(Effective Jan. 9, 1936)

Below 25	$0.86	33-33.9	$1.04
25-25.9	0.88	34-34.9	1.06
26-26.9	0.90	35-35.9	1.08
27-27.9	0.92	36-36.9	1.10
28-28.9	0.94	37-37.9	1.12
29-29.9	0.96	38-38.9	1.14
30-30.9	0.98	39-39.9	1.16
31-31.9	1.00	40 and above	1.18
32-32.9	1.02		

Jan 9, Carter's Oklahoma gravity and price schedule met in Oklahoma-Kansas by Sinclair-Prairie, and Humble's West Central Texas schedule met in North and North Central Texas where Sinclair-Prairie buys. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

Posted by Magnolia Petroleum Co.

(Effective Jan. 9, 1936)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.86 and ending with 40 & above, at $1.18.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Humble in West Central Texas, which see below, beginning with below 29 at $0.84, and ending with 40 and above, at $1.08.

†***Posted by Humble Oil & Refining Co.***

Texas Fields

(**West Central Texas*)

(Effective Jan. 9, 1936)

Below 29	$0.84	35-35.9	$0.98
29-29.9	0.86	36-36.9	1.00
30-30.9	0.88	37-37.9	1.02
31-31.9	0.90	38-38.9	1.04
32-32.9	0.92	39-39.9	1.06
33-33.9	0.94	40 and above.	1.08
34-34.9	0.96		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., on Jan. 9, met Humble in Fisher county, except that Shell posts five lower grades, beginning with below 25 gravity at $0.76; 25-25.9, $0.78; 26-26.9, $0.80; 27-27.9, $0.82; and 28-28.9, $0.84; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

**East Central Texas*

(Effective Jan. 9, 1936)

Below 29	$0.91	35-35.9	$1.05
29-29.9	0.93	36-36.9	1.07
30-30.9	0.95	37-37.9	1.09
31-31.9	0.97	38-38.9	1.11
32-32.9	0.99	39-39.9	1.13
33-33.9	1.01	40 and above.	1.15
34-34.9	1.03		

*Including Anderson, Cherokee, Limestone Navarro and Van Zandt counties.

Stanolind Oil & Gas Co., Jan. 20, posted in Marion County (East Central Texas), below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Jan. 9, Sinclair-Prairie met Humble's prices in Mexia.

Panhandle Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

	Gray County	Carson-Hutchinson
Below 35	$0.86	$0.81
35-35.9	0.88	0.83
36-36.9	0.90	0.85
37-37.9	0.92	0.87
38-38.9	0.94	0.89
39-39.9	0.96	0.91
40 & above	0.98	0.93

Jan. 9, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

East Texas

(Effective Jan. 9, 1936)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas, Sun Oil and Magnolia.....$1.15
Shell also posted on Jan. 9, in Livingston area, Polk County, Texas, $1.15.

West Texas and New Mexico

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas, and Lea county, New Mexico).

Below 29	$0.75	33-33.9	$0.84
29-29.9	0.76	34-34.9	0.86
30-30.9	0.78	35-35.9	0.88
31-31.9	0.80	36 & above..	0.90
32-32.9	0.82		

Pecos, West Texas.....$0.85

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Artesia, Jackson and Maljamar pools, N. M. $0.80

Jan. 16, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Jan. 9, Texas Co. posted Winkler and Lea counties at $0.85; Crane and Upton, $0.80.

Shell Petroleum Corp., on Jan. 23, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool) Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 9, Shell posted in Yates shallow pool in Pecos county, Tex., $0.75.

Northeast Texas

(Posted by Humble, April 15, 1936)

Talco.....$0.60

(Posted by Magnolia, May 1, 1936)

Cass County (Rodessa field):
Below 29.....$0.86
29-29.9..... 0.88
Rest of schedule same as S. O. La. posts in Rodessa, which see below.

South and Southwest Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

Darst Creek	$0.97	Pettus	$1.25
Salt Flat	0.97	Tomball	1.30
Saxet	0.90	Mirando	0.85

Shell Pet. Corp. on Jan. 9, posted $0.97 in Salt Flat district, Tex.

Anahuac (Chambers county) and Dickinson (Galveston county)
(Effective Jan. 9, 1936)

30-30.9	$1.04	36-36.9	$1.16
31-31.9	1.06	37-37.9	1.18
32-32.9	1.08	38-38.9	1.20
33-33.9	1.10	39-39.9	1.22
34-34.9	1.12	40 & above..	1.24
35-35.9	1.14		

Jan. 9, The Texas Co. posted $0.97 for Darst Creek.

Jan. 9, Magnolia posted $0.97 in Darst Creek; $1.30 in Tomball; $0.90 in Luling; $1.00 in Lytton Springs; $0.85 for Mirando; $1.10 for Cleveland, Liberty county, Tex.; $1.03 in Hardin, Liberty county, Tex.

Posted by Humble

Conroe and Raccoon Bend

(Deep sand crudes)

(Effective Jan. 9, 1936)

35-35.9	$1.24	38-38.9	$1.30
36-36.9	1.26	39-39.9	1.32
37-37.9	1.28	40 & above..	1.34

Jan. 9, Texas Co. met above prices.

North Louisiana-Arkansas

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 10, 1936)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Rodessa, Sarepta, Carterville, El Dorado and Miller county)

Below 25	$0.78	33-33.9	$0.96
25-25.9	0.80	34-34.9	0.98
26-26.9	0.82	35-35.9	1.00
27-27.9	0.84	36-36.9	1.02
28-28.9	0.86	37-37.9	1.04
29-29.9	0.88	38-38.9	1.06
30-30.9	0.90	39-39.9	1.08
31-31.9	0.92	40 and above.	1.10
32-32.9	0.94		

Smackover, Ark.....$0.75
Nevada, Ark..... 0.65
Urania, La. (La. Oil Refg. Co., Jan. 1, '34) 0.87
Tepetate, La. (Continental Oil, Jan. 9,'36)$1.12

The Texas Co., effective Jan. 9, posted in No. La.-Ark. same prices as Humble posts in West Central Texas. It also posted $0.80 for Smackover and $1.12 for La Fitte, La.

Magnolia Petroleum Co., effective Jan. 16, posted on No. La.-Ark. crude, prices beginning with $0.86 for below 29 gravity, plus 2 cent differential to 40 and above, at $1.10; this posting includes Rodessa, beginning March 16, 1936. It also posted on the same day, Eldorado (East Field), and Smackover, Ark., $0.75; Lockport, La., below 20 gravity, at $0.92, plus 2c differential, to 34 and above, which is $1.22; and for Iowa, La. and Cameron-Meadow field Cameron Parish, La., below 20 at $0.82, plus 2c differential, to 34 and above, at $1.12.

Stanolind Oil & Gas Co., Jan. 20, posted in Caddo Parish, La., below 29 oil at $0.86, plus 2c differential, to 40 & above at $1.10.

Shell Pet. on Jan. 9, posts same schedule in Black Bayou and White Castle, La. as Magnolia posts in Lockport, which see in above paragraph and in Iowa district, La. posts same schedule as Magnolia in Iowa and Cameron, which also see above.

(Continued on next page)

NEW REFINING PATENTS

Distillation. No. 2 031 610, issued Feb. 25, 1936; filed April 25, 1932; F. L. Maker, assignor to Standard Oil Co. of Calif.; 6 drawings; 4 claims.

APPARATUS comprising the combination of a fractionating column, and a tubular furnace designed for maximum efficiency by adding heat at the bottom of the fractionating column without possibility of decomposition. Provision is made for circulation of fluid by naturally existing convection differentials even in the event of stoppage of the feed supply.

Advantages of tubular heaters are increased heat transfer rate variable with velocity of liquid through the tube, higher efficiency, and less hazard of explosion and fire.

Cracking and fractionating. No. 2 033 472, issued March 10, 1936; filed June 13, 1933; P. C. Keith, Jr., assignor to Gasoline Products Co.; one drawing; 3 claims.

METHOD and apparatus for supplying cooling to the evaporator and to the fractionator in an oil cracking system. Fresh charging stock, which is used as a cooling medium, is passed in indirect heat exchange relation with the vapors in the top of a fractionator and is then introduced into the vapor line which serves to introduce vapors into the fractionator. A composite liquid consisting of reflux condensate and unvaporized fresh feed oil is withdrawn from the bottom of the fractionator and collected in an accumulator tank from which it is withdrawn and passed in indirect heat exchange relation with the vapors in the top of the evaporator, which supplies the vapors for the fractionator already mentioned. The resulting heated composite feed stock is then introduced into the cracking furnace. The indirect cooling in the top of the evaporator causes the production of a condensate which is collected in a trap out tray and transferred from the evaporator to the accumulator tank.

* * *

Dehydration. No. 2 032 527, issued March 3, 1936; filed Oct. 29, 1934; J. E. Cox, assignor to D. M. Dorman, Los Angeles; no drawing; 9 claims.

A COMPOSITION for dehydrating petroleum and raising the gasoline content comprising a filtrate of a mixture of shale sludge and extract of tobacco, a petroleum distillate containing absorbed ingredients of the sludge, and an emulsifying agent comprising soap and a soap solvent.

CRUDE OIL MARKETS

Continued from preceding page

*Gulf Coastal Fields

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

Below 18	$0.88	26-26.9	$1.06
18-18.9	0.90	27-27.9	1.08
19-19.9	0.92	28-28.9	1.10
20-20.9	0.94	29-29.9	1.12
21-21.9	0.96	30-30.9	1.14
22-22.9	0.98	31-31.9	1.16
23-23.9	1.00	32-32.9	1.18
24-24.9	1.02	33-33.9	1.20
25-25.9	1.04	34 and above	1.22
Refugio heavy	$0.90		

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light, Sour Lake, Spindletop, Sugarland, and West Columbia.

Above gravity and crude schedule met Jan. 9 by The Texas Co., except that Texas Co. posts $0.92 for below 20. Jan. 9, Sinclair-Prairie met above Humble schedule in full.

Rocky Mountain Fields

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 9, 1936)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas which see.

Elk Basin, light	$1.28
Grass Creek, light	1.28
Grass Creek, heavy	0.72
Greybull-Torchlight	1.28
Iles, light, Col.	1.06
Iles, heavy	1.00
Hogback, N. M.	1.21
Frannie light (Effective Feb. 24, '36)	0.78
Frannie heavy	0.72
Hamilton Dome, Wyo.	0.67
Pondera, Mont.	1.05

Posted by Ohio Oil Co.

(Effective Jan. 9, 1936)

Elk Basin, Wyo.	$1.28
Grass Creek, light and heavy	1.28
Rock Creek	1.12
Big Muddy	1.11
Sunburst, Mont.	1.25

Posted by Other Companies

(Effective Jan. 9, 1936)

Cutbank, Mont. (*Internatl. Refg. Co.)	$1.50
Cat Creek, Mont. (Continental Oil)	1.28

*Texas Co. subsidiary.

CALIFORNIA, Posted by Standard Oil of California

All gravities above those quoted take highest price offered in the field. Effective Feb. 25, 1936 except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective Mar. 7, 1936

Gravity	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills, **Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$0.80	0.79	0.74	0.78	0.79	0.80	0.76	....	....	0.80	0.76	0.76	0.77	0.78	....	0.70	....	0.65	0.70	0.65	0.70	0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.65	.70	.65	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.65	.70	.65	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.65	.70	.65	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.65	.70	.65	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	0.70	.66	.74	.66	.74	.71	0.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.68	.78	.68	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.71	.82	.71	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.74	.87	.74	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.77	.92	.77	.90	.82	.76
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.80	.97	.80	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.02	.95	....	.89	.99	.86	....	.88	.83	1.01	.83	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	.86	1.06	.86	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	.88	1.10	.88	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	.91	1.15	.91	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18		1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	.94	1.20	.94	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21		1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	.97	1.25	.97	1.18	....	....
31-31.9				....	1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	.99	1.29	.99			
32-32.9	*Elwood Terrace			....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.02	1.34	1.02	Kettleman Hills		
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.04	1.38	1.04	....	1.19	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	....	....	1.23	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....
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F.O.B. Standard Pipe Line

*F.o.b. ship.

‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

THE LEADER

IN *Style*, TOO

THE new streamlined No. 9006 Schrader Dublchek—unchanged in any of the mechanical features that have made it preferred by the trade and motorists everywhere—now affords an eye-appeal that will make many additional sales. The longer, slightly-tapered body gives a more finished appearance to the tire valve. This is a good point to mention in these days of style-conscious buying.

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"Magnificent piece of work . . . a milestone in petroleum history" from Tulsa, Okla.

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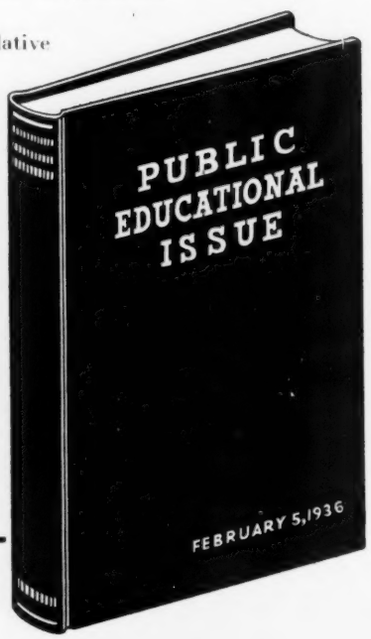


NEW BOOKS

Scientific Encyclopedia

Hutchinson's The Technical and Scientific Encyclopedia is said to be the first complete compilation of scientific and technological advances in 25 years. In 25,000 entries are the materials, the processes, the technics, the terms, and complete data on both pure and applied science in all fields. It also gives a list of 3000 books and other sources of information. Thousands of diagrams and plates give added enlightenment. These vary from small drawings to full-page plates.

In the four volumes are nearly 2500 pages edited by C. F. Tweney, joint editor "A Technological & Scientific Dictionary," editor of "Standard Books," and I. P. Shirshov. The Macmillan Co., publisher, is offering the set at $25.

Know Your Man

Most human failures occur, not because of the man, but because he is improperly placed, is the observation Frank V. Martinek makes in his new book "Know Your Man," analyzing the problems of an employment manager and the psychology of the man out of work.

A careful analysis of the man seeking a job and his proper placement in the company, makes for the best interests of both employer and employe, says this personnel director of the Standard Oil Co. of Indiana, which last year, with its subsidiaries, employed around 38,500 people.

The book, designed to give the personnel director and executive an insight into the mental attitude of the man who is looking for a job, is published by The Christopher Publishing House, Boston. It sells for $1.

New Formulary

Volume III of The Chemical Formulary has just been brought out. Every formula is different from those in the first two volumes, it is said. A comprehensive index for all three volumes is included.

The price is $6 plus postage. Chemical Publishing Co. of N. Y., 175 Fifth Ave., New York, is the publisher.

Emil Wallmann Heads Wisconsin Dixie

MILWAUKEE—Emil R. Wallmann, Milwaukee Badger Oil Co., Milwaukee, is the new president of the Dixie Distributors of Wisconsin.

Other officers are Emil Ulrich, Independent Oil Co., Horicon, vice-president; John Spengler, Spengler Oil Co., Clintonville, treasurer; and Harry Nankervis, Jobbers Oil Products Co., Oshkosh, secretary and field man.

New Jersey Fair Trade Act Held Unconstitutional

NEWARK, May 15.—The New Jersey fair trade act, passed in 1935, today was declared unconstitutional by Vice-Chancellor Alfred A. Stein. The ruling was delivered in a suit brought by four manufacturers to restrain a cut-rate drug store from selling at lower prices than set by the manufacturers. It was announced that the ruling would be appealed.

The Vice-Chancellor said, in part: "The statute is designed to eliminate competition among retailers and its attempts to fix the price of articles not affected with a public interest, even though there is no price contract between producer and retailer.

"Free competition has characterized the retail trade in this country since we became a nation. It does not appear that the business of the complainants' trademarked or branded articles suffers from a crisis or an emergency. Even where such legislation, born of an emergency, is upheld, it must provide a limitation of duration.

"The statute reposes novel and drastic power in the hands of manufacturers and producers rather than in some government agency. The statute delegates and invests power, not in an agency charged with the administration of law, but in individuals, and without a definite policy and rule of action for the guidance of such individuals in the administration of the act."

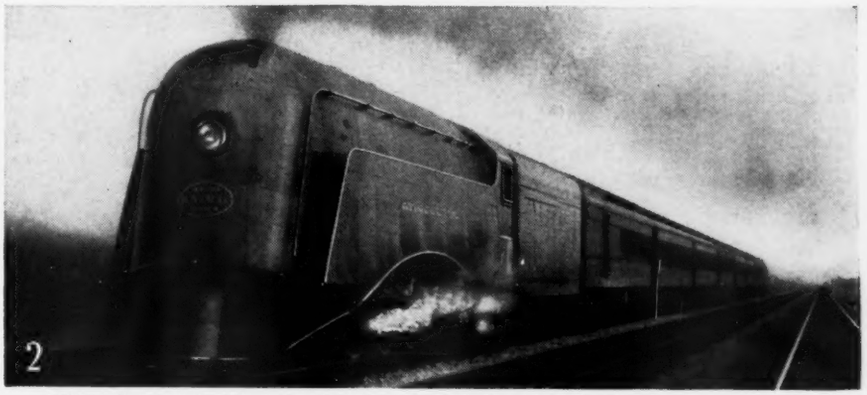
New York Gasoline Tax To Be Cut 1-Cent

NEW YORK, May 15.—One of the rare instances where a state gasoline tax has been reduced will take place in New York on June 30, 1936 when one of the state's two emergency levies will be eliminated. Both the emergency items levy a gasoline tax of 1-cent a gallon and both were due to expire on June 30, unless they were extended by the session of the legislature which adjourned today.

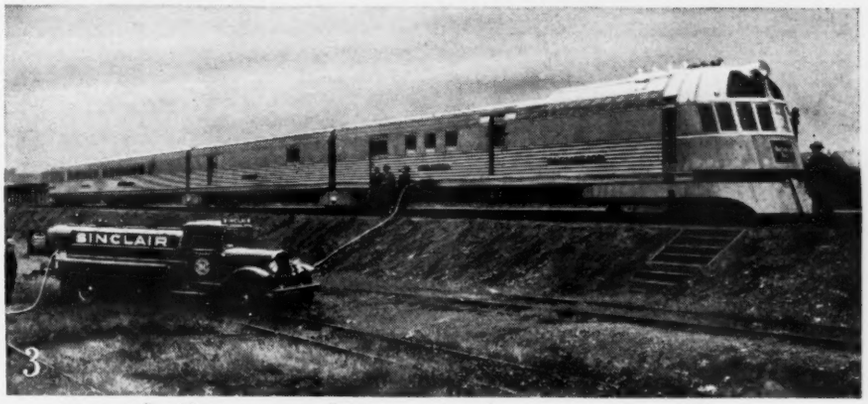
The legislature, through the action of the Republican controlled Assembly in eliminating some $15,000,000 from the Governor's proposed budget, reenacted only one of the emergency levies. If the Governor signs the bill, which he is expected to do during the 30-day period allowed him, the state gasoline tax after June 30 will be 3 cents a gallon instead of 4 cents.

In case the Governor should not sign the tax bill the gasoline tax would automatically drop to only 2 cents a gallon, which is the basic rate. This action is believed improbable however, as the amount the 1-cent levy will bring the state is vitally needed to balance the budget.

Lili Damita and Errol Flynn, star of the Warner Brothers picture, "Captain Blood", arrive in New York on . . .



. . The Twentieth Century Limited which is . . .



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. . Distributors, jobbers and dealers who sell Sinclair products benefit from Sinclair's reputation. For details, call the local Sinclair office or write Sinclair Refining Co. (Inc.), 630 Fifth Ave., New York, N. Y.

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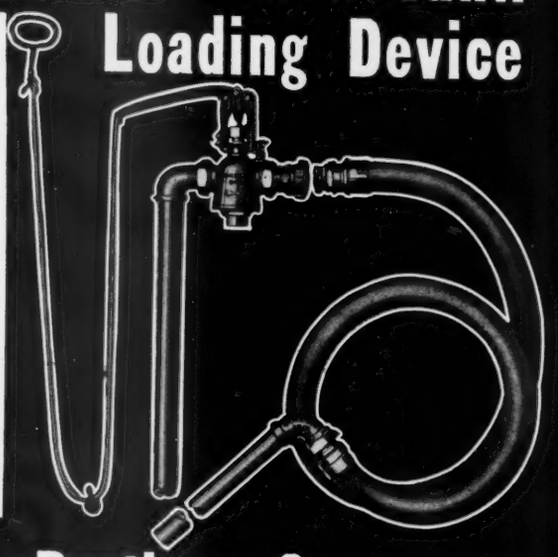
● Will quickly pay for itself in savings on vaporization losses. Supplied with vacuum breaker valve. 8' length, 2" hose and couplings and brass fill tube 4', 6" long. Write for New Morrison Catalog and Prices.



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NEW PATENTS

Prepared by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering.

April 28, 1936

REFINING

Method and apparatus for distillation and extraction—Le Roy M. Dearing, Yellow Springs, Ohio, assignor to Antioch Industrial Research Institute, Inc., same place. Filed Dec. 31, 1931. No. 2,038,546.

Treatment of sludges—Stanard E. Funsten, Rosemont, Pa., assignor to Atlantic Refining Co. Filed Nov. 21, 1931. No. 2,038,559.

Carrying out catalytic reactions—Mathias Pier, Paul Jacob, and Walter Simon, Germany, assignors to Standard-I. G. Co. Filed Jan. 15, 1932. No. 2,038,599.

Process for treating lubricating oils—Louie H. Robertson, Elizabeth, and William A. Eberle, Jersey City, N. J., assignors to Standard Oil Development Co. Filed Dec. 21, 1931. No. 2,038,604.

Degumming gasoline and like—Donald R. Stevens, Pittsburgh, and William A. Gruse, Wilkinsburg, Pa., assignors to Gulf Oil Corp. Filed May 3, 1930. No. 2,038,614.

Separation of wax from oils—Chester E. Adams, Hammond, Ind., and Fred W. Scheineman, Chicago, Ill., assignors to Standard Oil Co. (Ind.). Filed Mar. 18, 1932. No. 2,038,624.

Process of treating lubricating stocks containing amorphous wax—Robert E. Burk, Cleveland, Ohio, assignor to Standard Oil Co. (Ohio). Filed Oct. 5, 1933. No. 2,038,640.

Solvent refining of hydrocarbon oil—Robert E. Manley, Beacon, N. Y., assignor to Texas Co. Filed Mar. 7, 1932. No. 2,038,798.

Process for converting hydrocarbons—Frederick E. Frey, Bartlesville, Okla., assignor to Phillips Petroleum Co. Filed Oct. 6, 1932. No. 2,038,834.

Apparatus for dehydration of tar emulsions—Thomas H. Jackson, Centralia, Ill. Filed Nov. 29, 1933. No. 2,039,003.

Treating hydrocarbon oils—Claude W. Watson, Port Arthur, Tex., assignor to Texas Co. Filed June 22, 1932. No. 2,039,239.

Carrying out catalytic reactions—Mathias Pier, Paul Jacob, and Walter Simon, Germany, assignors to Standard-I. G. Co. Filed Jan. 15, 1932. No. 2,039,259.

MISCELLANEOUS

Liquid composition containing rubber—Carleton Ellis, Montclair, N. J., assignor to Standard Oil Development Co. Filed Dec. 24, 1932. No. 2,038,556.

Manufacture of synthetic resins of petroleum origin—Steward C. Fulton, Elizabeth, and John Kunc, Roselle Park, N. J., assignors to Standard Oil Development Co. Filed Oct. 30, 1931. No. 2,038,558.

Motor fuel and process of producing same, and (2 patents) gasoline and method of making same—Harry T. Bennett and Le Roy G. Story Tulsa, Okla., assignors to Gasoline Antioxidant Co. Filed Nov. 12, 1926, and Jan. 16, 1928. Nos. 2,038,630, 2,038,631, and 2,038,632.

Solid lubricants—Galvin R. Taylor, Montreal West, P. Q., and Richard N. Smith, Toronto, Ont., Canada, assignors

to McColl-Frontenac Oil Co. Ltd., Montreal. Filed July 10, 1933. Nos. 2,038,688 and 2,038,689.

Lubricating oil—Ernest F. Pevere, Beacon, N. Y., assignor to Texas Co. Filed Apr. 23, 1934. No. 2,039,111.

Tennessee Court Moves To Collect Gas Tax

NEW YORK, May 16.—New developments have occurred in the Tennessee gasoline tax evasion case, which so far has had several arrests, a suicide and a nation-wide manhunt for an alleged tax evader, according to information obtained by the American Petroleum Industries Committee.

The Committee reports that A. C. Taylor of Gladewater, Texas has surrendered to the prosecuting attorney at Nashville, Tenn. and now is out on $10,000 bail. J. H. Campbell, of Houston, Texas, who jumped a $5000 bail still is being hunted.

Another development in the tax case was a ruling by the Tennessee Supreme Court permitting the state to serve distress warrants on the Hammett Oil Co., the Dixie Oil Co., and Erle Hudson, for alleged tax evasions.

The companies based their defense on the charge that representatives of the Commissioner of Taxation had asserted they wanted to destroy the petitioners' business and that the Commission had acted in an arbitrary manner.

The court ruled that the commissioner cannot be bound by remarks of underlings and that he was empowered to determine the amount of the taxes due and attempt to collect them. "If the taxpayer questions the tax, it is his duty to pay it under protest and sue for its recovery," the court stated.

ICC Approves Five Rail Rate Reductions

WASHINGTON — The Interstate Commerce Commission so far has approved in May six applications and denied one for reductions in railroad freight rates on petroleum and its products on less than statutory notice to meet motor truck, water and other rail competition.

Rail carriers have received ICC permission to establish the Pecos, Texas, basis of rates on refined petroleum oil from stations on the Panhandle and Santa Fe Railroad between Rio Pecos and Fort Stockton to destinations in Western Trunk Line Territory. When crude rates were established in this territory, there was no movement of refined oil but there is now a small refinery at Baldridge which needs to move its products immediately, it was stated.

Freight rates on asphalt shipped from California to Ruby and Gresham, Oregon, and from Louisiana points to Jackson, Miss. for big paving jobs will be reduced. The new rate to Jackson will be 15 cents per 100 pounds. "Unregulated water-truck carriers" competition is cited by the applicant for the Jackson reduction.

Reduced rates on gasoline and kerosine from Montgomery and Mobile, Ala., and New Orleans to Opelike, Ala., which now apply via a number of carriers will be extended to the Central of Georgia. The reduction from Montgomery will be from 20 cents to 13 cents; from Mobile from 35 to 33 cents, and from New Orleans, from 41 to 36½ cents. Motor and water competition were also alleged in the request for this reduction.

The Chicago, Milwaukee, St. Paul and Pacific will put its reduced crude oil rate from Winnett, Montana, to Eston, Shaunavon, Weyburn and Wainwright, Canada, into effect earlier than the original June 8 effective date. The new rate will be 57½ cents per 100 pounds to Eston, Shaunavon and Weyburn, which are in Saskatchewan, and 56½ cents to Wainwright in Alberta.

The rate on petroleum coke shipped by rail from Toledo to Niagara Falls, Ontario, Canada, will be cut from

THE LEADER

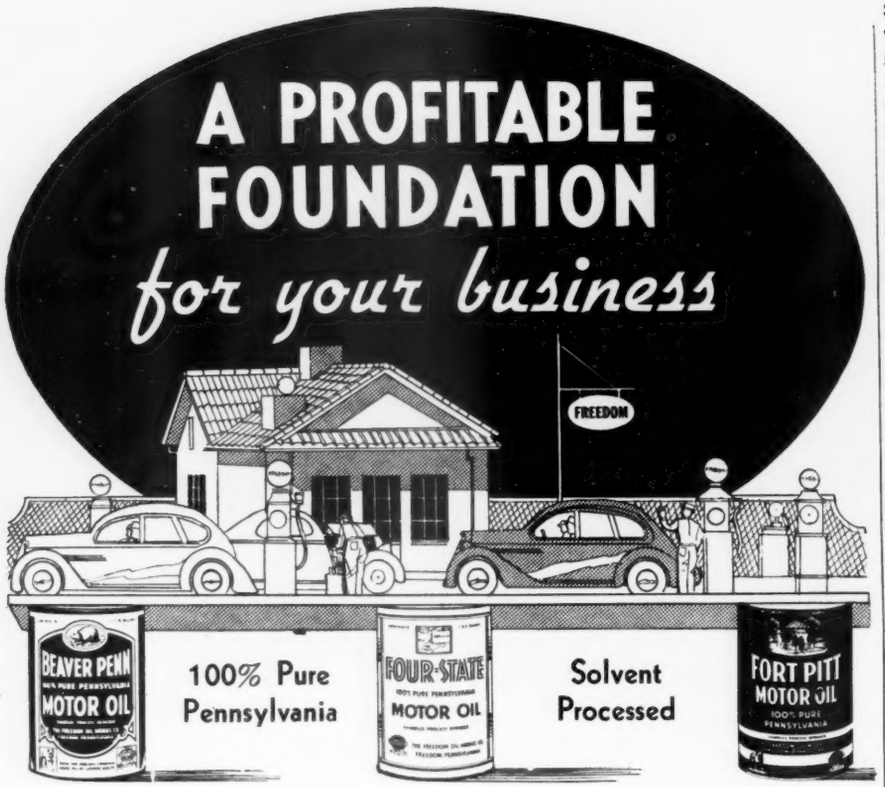
follows no one!

Cushing has pioneered the *Thoroughbred* Quality of its Petroleum Products and the CANNON BALL Service with which they are delivered. Today Cushing's high octane, anti-knock gasoline stands at the top of a list of petroleum products that have established an enviable reputation for Quality in the name CUSHING. *Let it be your guide to greater profits in* 1936 *as it was to hundreds of successful jobbers in* 1935.

Cannonball Service

WIRE, WRITE OR PHONE
FOR QUOTATIONS

Anti-Knock 400 End Point
60-62 Better than U. S. Motor
60-62 Under 400 End Point
64-66 Under 375 End Point
68-70 Under 360 End Point
42-44 W. W. D. T. Kerosene
38-40 Light Straw Zero Distillate
32-36 Overhead uncracked Gas Oil
Cracked Fuel Oil



Here are three fast-selling motor oils, any one of which will make a profitable foundation on which to build your business. The uniform high quality of these motor lubricants, proved again and again in actual performance, has made them real sales winners.

Refined from 100% Pure Pennsylvania crudes by an improved solvent process, Beaver Penn, Fort Pitt and Four State-Motor Oils are attractively packaged in refinery sealed cans. Your requirements may also be secured in bulk. If you desire, pure Pennsylvania oils of any specifications may be packed in your own cans.

Get in on the quality market—build your profits by supplying your dealers with motor oils that give real satisfaction all along the line.

Stock **SUMMER OILS** *Now!*

FREEDOM

WRITE *today*

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121 Third Street, Freedom, Pa.
Gentlemen:
Send me particulars about the New Freedom Solvent Processed Oils.

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$3.70 per net ton to $1.90 to meet water competition. The applicant railroads reported that there are about 3,000 tons ready to move and that they would all go by boat unless the rail reduction were allowed. The water rate is $1.73, but the railroads said that shippers and receivers had both indicated they would use the rails at a $1.90 rate in order to secure superior service, if the reduction were immediate.

The reduction sought in the freight rate on partially refined petroleum, upon which further processes of refining are necessary, shipped from Warren, Pa., to Cleveland over the New York Central from 22 to 14½ cents per 100 pounds to meet motor truck competition and to put the Warren shippers on a comparable basis with shippers at Oil City and Butler, Pa., was denied by the ICC.

Jobbers Warned Marketing May Be Serious Problem

LINCOLN—In commenting on major companies relinquishing retail gasoline service stations, the latest bulletin of the Nebraska Petroleum Marketers, Inc. warns that it may present a serious problem to the jobber.

"As you know," the bulletin states, "production and refinery operations are well in hand. Could say as much for marketing? Can it be possible the marketing end is too large to be handled on a normal basis.

"Jobbers might well be asking themselves what it is all about for unless you can make a profit the marketing end is not desirous.

"Jobbers can, with the co-operation of refiners, handle the marketing of petroleum products in a sane manner but do not get the idea it will come to you on a silver platter," the bulletin continued.

COMING MEETINGS

(*Continued from page* 17)

National Oil Marketers Association, annual convention, Stevens Hotel, Chicago, Ill., Oct. 27 to 29.

American Petroleum Institute, 17th annual meeting, Chicago, Nov. 9 to 12.

Independent Petroleum Association of America, annual meeting, Oklahoma City, Okla., Nov. 30 and Dec. 1.

1937

Kentucky Petroleum Marketers Association, Brown Hotel, Louisville, Ky., Feb. 8, 9, 10.

Few Oil Bills Approved By New York Legislature

NEW YORK, May 18.—Out of the welter of approximately 2300 bills which were introduced at the recent session of the New York legislature, only a few actually passed which will directly affect the petroleum industry, according to Robert L. Graham, Jr., secretary of the New York Petroleum Industries Committee, which took an active part in fighting adverse legislation.

The outstanding bit of legislation accomplished at this session is the 1-cent a gallon reduction in the state's gasoline tax which the legislature approved, to take effect on June 30.

Another bill of interest appropriates $15,000 for the purpose of having a committee conduct a study of gasoline prices within the state. The resolution stated that service stations owned and operated by independents have shown a material decrease and at the same time these outlets in denser populated areas are monopolized by large oil companies. This centralization of control may result in the fixation of greater prices than warranted and perhaps has already so resulted, the resolution states.

One bill of importance to the industry which the legislature failed to approve authorized the imposition of tolls on merchandise carried through the New York state barge canal, which at present is free. However, such action would have had to be approved by an amendment to the state constitution. It was estimated that a canal toll might cost the oil industry $1,000,000 a year.

Another bill killed by the legislature would have levied a tax of 2 cents a gallon on all petroleum products refined in or imported into the state of New York. This would have included light and heavy fuel oils.

Among the proposals which died with the adjournment of the legislature were some chain store tax bills and bills seeking more stringent regulation of trucks and busses. Another bill sought to make it a misdemeanor to sell gasoline to drunken drivers, while others called for compulsory automobile insurance and compulsory state inspection of all automobiles. The insurance bill, if it had passed, would have driven about one-third of the state's automobiles from the highways, it was estimated.

---

3 New Dixie Jobbers

PELLA, Iowa—Three new members of Dixie Distributors are announced in the current issue of the National Dixie Booster. They are the Crow Oil Co., Chattanooga, Okla.; LaBelle Oil Co., Oconomowoc, Wis.; and the Stapleton Oil Co., Creston, Iowa.

Startling

THIS EVIDENCE OF PYROIL'S PROTECTION

PLATE No. 1

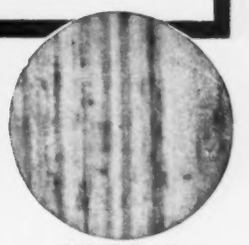

PLATE No. 2

CORROSION (chemical attack) is a dangerous enemy of auto, truck and tractor engines—all equipment. It can ruin bearings and other parts in half their normal life.

Evidence of how Pyroil inhibits corrosion is shown at right. *Plate No. 1:* A photomicrograph (125 times enlarged) of an auto bearing run in high grade oil. The dark matter is corrosion. *Plate No. 2:* An identical bearing run with only Pyroil added to the oil, showing the remarkable freedom from this chemical attack!

This is only one of Pyroil's unusual qualities of protection. (Improved Pyroil now dark wine red in color.) In addition, Pyroil reduces wear on all metal parts; reduces heat and friction; increases film strength of oil. Creates savings in repairs. Greatly improves operation.

Improved Pyroil fits lubrication to the exacting requirements of increased compressions; increased temperatures; increased speeds; increased friction.

MAIL COUPON BELOW FOR FREE METALLURGICAL REPORT GIVING THE COMPLETE FACTS AND ADDITIONAL PICTURES OF THE ABOVE.

Service your trade with Pyroil. An unusual profit and business building opportunity. (See phone book for nearest Distributor). **Advertised in Sat. Eve. Post and 25 other nationally circulated publications. Manufactured and Guaranteed by Pyroil Company, W. V. Kidder, Founder, 115 La Follette Ave., LaCrosse, Wis., U. S. A.**

Genuine Pyroil Bears this Signature on Every Can.

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Please send FREE important Chart, Photomicro. and Report material, also Profit and Business Building Facts and Proof.
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IMPORTANT REASONS

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Refinery: Burnham, Ill.

The Accounts of An Oil Company

By H. G. Humphreys

THIS comprehensive and instructive manual was published for the guidance and help of the many accountants and comptrollers who are called upon to deal with questions not found in other industries.

It is an important contribution to accounting literature and discusses the problems of oil accounting from the "bringing in" of a new well through the pumping, piping, refining and distribution of the product. Recent attempts to bring about better conditions in the industry under codes of fair competition and other regulatory measures are discussed in the text, and the author expounds his proposals for the handling and auditing of accounts in all the fundamental phases of the industry.

The book contains many illustrated forms of account and will be most helpful to the accounting departments of oil companies.

Cloth Bound, 136 Pages, Price $2.00

NATIONAL PETROLEUM NEWS
1213 W. 3rd St., Cleveland, Ohio

INTERESTING TRADE ITEMS

Station Compressors

The entire line of garage and service station compressors is illustrated and described, with detailed specifications, in new bulletin 7501-G, now being distributed by Ingersoll-Rand Co., New York. The units are designed to meet the many and varied requirements of service stations and garages. They include stationary and portable units, horizontal and vertical tanks, and electric or gasoline drive. Paint sprayers are also shown. Copies may be obtained from any branch office.

* * *

New Salesmen

Pittsburgh Equitable Meter Co. and its subsidiary, the Merco Nordstrom Valve Co., Pittsburgh, announce K. G. Myrberg has joined its sales force in Des Moines.

Ray Jerge

Ray Jerge, formerly industrial gas engineer for the Cities Service properties of western New York, has joined the sales force at Buffalo.

* * *

Instruments

"Instruments from the Executive Viewpoint" is the title of a 24-page booklet now being distributed by The Brown Instrument Co., Philadelphia. It illustrates and briefly describes the part instruments and controls play in the modern industrial plant.

* * *

Truck Orders Up

Orders for trucks received by the Federal Motor Truck Co. for March are approximately double the number received during the corresponding month last year, according to J. F. Bowman, vice-president in charge of sales. Mr. Bowman said that the March record was the best since 1929.

* * *

Fill Box

The latest development in fill boxes is the A. Y. McDonald Mfg. Co. quick opening flush fill box illustrated here-

with. An equalizing cam locking arrangement insures tight fit at all points and reduces wear to a minimum, it is said. Plate 953, as it is identified, is furnished with or without drain holes. Sizes include 2, 2½, and 3 inches. It has a bronze top cover and inside lock cap and an iron body.

* * *

Canned Oil Dispenser

The Brookins Division of the Cincinnati Ball Crank Co. has developed an improved canned oil dispenser, according to J. F. Aston, president of the company. It is said to eliminate any possibility of tampering with or refilling the containers because it cuts through side, bottom and bead of all oil cans or cartons. It is provided

with an extra long spout and a sloping bottom with oil sump for complete drainage. The finish is polished copper plate.

* * *

The firm of Pfaltz & Bauer, Inc., dealers in industrial chemicals, have recently added many new lines of instruments and laboratory. Beginning May 1, its headquarters will be in the Empire State Building, New York, where a permanent display will be set up.

Kentucky Taxes Diesel Oil But Kills Other Bills

LOUISVILLE, May 14.—Two out of three new taxes on the petroleum industry proposed in Kentucky to help raise $12,000,000 additional revenue, were killed when the special revenue session of the general assembly adjourned May 9.

The defeat of the 8-cent-per-gallon lubricating oil tax, later lowered to 4 cents, was due largely to organized effort on the part of the oil industry and the good presentation of its case, Herbert L. Clay, secretary of the Kentucky Petroleum Industries Committee, points out in the committee's legislative bulletin of May 9. This fact was commented upon by Gov. Chandler who instructed the Senate not to pass this bill unless absolutely necessary. It did not pass.

Appearing for the industry, aside from Mr. Clay, were William A. Stoll, Stoll Oil Refining Co., chairman for the oil industry in its fight against these taxes. Glen F. Weinman, secretary of the Bluegrass Auto Club of Louisville also appeared.

A service station and gasoline pump license, proposing a graduated fee of from $40 in larger cities to $2.50 in the country, died in the Revenue and Taxation Committee of the House.

A new gasoline tax law, to be effective June 1 upon the Governor's signature, calls for the gasoline tax to be paid on receipts rather than the sale of gasoline, and provides an evaporation and shrinkage allowance of 2¼ per cent.

The new law provides that the state tax rate on gasoline remain 5 cents, and that no other excise or license tax shall be levied on gasoline, either by the state or any of its subdivisions. It also prohibits diversion of tax revenue. A complete analysis of the new law was contained in a special bulletin of May 13 by the Kentucky committee.

Because the new gasoline tax law exempts from tax kerosine, cleaners' solvent, Diesel fuel, crude and fuel oil, a law was enacted taxing consumers 5 cents per gallon who use any of these products for propelling motor vehicles on highways. Such truck and motor vehicle operators must obtain a license, file bond, and make a monthly report to the state.

Other measures enacted at this session include a 3 per cent tax on the purchase of motor vehicles collected by the county clerk when the license is issued; and the chain store tax rate increase which, however, does not affect filling stations.

Indiana Oil Men to Meet

INDIANAPOLIS, May 18.—The fall convention of the Indiana Independent Petroleum Association will be held Oct. 21 and 22 at Hotel Severin, Indianapolis, according to George W. Hofmayer, secretary.

.....thank you for the prompt service

.....we are particularly pleased with the ease of operation of both the doors and the sliding posts.

Any of your other service openings can be made 100% efficient with Kinnear Doors, for there's a type for every condition.

STEEL ROL-TOP DOORS
STEEL ROLLING DOORS
LABELED FIRE DOORS
STEEL BIFOLDING DOORS
MOTOR OPERATED DOORS

Thanks, Mr. Morrison. Your letter partially explains why Rol-Top Doors are so widely used. Kinnear's nation-wide organization insures prompt service everywhere. As for operating ease, you'd naturally expect a company who has specialized in upward-acting doors for 40 years to have a better door. And, as time goes by you're going to be even more pleased with the low upkeep of your Rol-Top Doors . . . they're built for hard service station use.

The KINNEAR MFG., CO.
1940-60 FIELDS AVE. COLUMBUS, OHIO

KINNEAR **RoL-TOP** DOORS

ESSO STATION

NOT CONNECTED With Standard Oil Company (Indiana)

Now motorists in the Middle West can obtain at Esso Stations in St. Louis:

ESSO—for Premium Motor Fuel
ESSOLENE—for Regular Motor Fuel
ESSOLUBE—for Motor Oil
ESSOLEUM—for Greases and Lubricants.

THE SIGN OF HAPPY MOTORING

For the past several years, motorists in the East and in the South have been familiar with "the ESSO sign". This big red, white and blue ESSO oval has marked the source of fine products and courteous service at more than 30,000 ESSO STATIONS and ESSO DEALERS from Maine to Louisiana.

ESSO INC.

Please Note That the Standard Oil Company (Indiana) HAS NO CONNECTION WITH ESSO STATIONS or ESSO Inc.

TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended May 16 Sales Shares	High	Low	Last	Week's Change
80	48½	125	75	788,675	N.P.	Amerada Corp.	50cQ	Jan. 31, 36	2,900	98	91¾	95	— 1¼
44	29¾	51⅛	37	2,290,412	$25	Associated Oil Co.	25c	May 1, 36	30	38	†37	37	— 2½
28	20⅛	35⅛	27⅛	2,696,652	25	Atlantic Refining Co.	25cQ	Mar. 16, 36	7,700	29½	27⅞	29⅛	+ ⅛
14¾	5⅛	20	14⅛	2,258,779	5	Barnsdall Corp.	20c	May 1, 36	17,100	18¼	17⅛	17¾	+ ⅛
9⅞	6¾	24¾	8¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	150	19¼	17¾	18¾	— ⅞
12¼	6½	15¼	11½	13,996,072	N.P.	Consolidated Oil Corp.	25c	Apr. 1, 36	29,800	12¾	11¾	12⅝	+ ½
112½	108½	105½	101	132,771	$100	do pfd.	$1.25Q	Mar. 15, 36	.....	.....	.....	.....	.....
35	15⅞	38½	29⅛	4,722,652	5	Continental Oil Co.	25c	Apr. 30, 36	10,100	32½	30¾	32½	+ ⅜
22½	11¾	34¾	22	413,333	$10	General Asphalt Co.	....	.....	2,400	26	24¾	25¾	+ 1
17¾	9⅛	....	....	95,841	100	Houston Oil Co.	....	.....	.....	.....	.....	.....	.....
7	1½	12¼	6⅛	678,234	25	do v.t.c.	....	.....	6,700	9¼	8⅝	8⅞	— ⅛
5¼	2⅛	8⅜	4⅛	1,207,132	10	Indian Refining Co.	....	.....	400	11¼	10⅜	10⅜	— 1⅛
1⅞	⅝	....	....	1,309,060	N.P.	Louisiana Oil Ref'g. Corp.	....	.....	.....	.....	.....	.....	.....
15	4½	34½	13	40,000	$100	do pfd.	....	.....	3,680	*34½	27	29½	— 3
3	1	6¾	2½	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	1,500	4¼	4	4⅛	+ ⅛
20½	9½	23	17¼	1,857,912	$10	Mid-Continent Pet. Corp.	25c	Dec. 2, 35	8,900	20¾	19	19⅞	— ⅛
14¼	9¼	17½	12½	6,563,377	N.P.	Ohio Oil Co.	15c	Dec. 14, 35	12,600	14¼	13⅜	13½	0
21	10⅜	20⅝	14½	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	....	.....	100	13¼	13¼	13¼	— 1¼
1⅞	½	4¼	1⅜	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	.....	400	2⅞	2½	2½	— ½
20	6½	74½	18½	17,994	$100	do pfd.	....	.....	110	65	63	64	— ½
14	7⅝	18	12⅝	2,153,444	5	Petroleum Corp. of America	33c	Oct. 31, 35	3,000	13½	†12⅝	13⅛	+ ⅛
40	13¾	49⅝	38⅛	4,439,450	N.P.	Phillips Petroleum Co.	25cQC	Feb. 29, 36	14,600	42⅞	41	42¾	0
1¼	¼	2¼	⅞	1,184,817	$25	Pierce Oil Corp.	....	.....	.....	.....	.....	.....	.....
8	2¾	17	8	150,000	100	do pfd.	....	.....	2,500	13⅜	12½	12⅝	— ⅝
1¾	⅝	2½	1½	2,500,000	N.P.	Pierce Petroleum Corp.	....	.....	1,900	2	1⅞	2	+ ⅛
13	6½	16½	11⅞	1,050,000	$5	Plymouth Oil	25cQ	Mar. 30, 35	11,300	14¾	13½	14⅜	+ ⅛
17	5⅞	24⅞	16⅝	3,038,370	N.P.	Pure Oil Co.	.....	.....	29,400	19¾	18½	19⅜	+ ½
103	34¾	118	91¼	167,640	100	do 6% pfd.	$19.125d	Apr. 20, 36	2,300	95½	91¾	95½	+ 3
119½	49¾	133½	103	130,000	$100	do 8% pfd.	$25.50d	Apr. 20, 36	320	107	103½	107	+ 3
48½	29½	57⅝	48⅜	425,342	a	Royal Dutch Co. (N. Y. shares)	$1.70	Aug. 1, 35	1,100	57⅜	56½	57¼	+ ¼
36⅞	20¾	42½	32¼	1,244,383	N.P.	Seaboard Oil of Del.	25c	Mar. 14, 36	3,200	35	33½	33⅝	— ⅜
39	20⅜	48	38½	56,148	£2	Shell Transport & Trading Co.	$1.237	July 24, 35	300	*48	48	48	+ ½
16⅜	5½	19¼	14¾	13,070,625	N.P.	Shell Union Oil Corp.	....	.....	14,900	18	17⅜	17¾	0
111	63⅛	120	110½	400,000	$100	do pfd. w.w.	.....	.....	1,000	116½	115½	115¾	— ¼
18¾	4¾	6¾	4⅝	461,000	10	Simms Petroleum Co.	**$1.00	Jan. 27, 36	7,000	5⅜	4⅞	5¼	+ ½
20½	6½	31½	19½	1,100,069	25	Skelly Oil Co.	....	.....	2,200	25	22⅞	25	+ 1½
116¼	60	132	116	120,000	100	do pfd.	....	.....	.....	.....	.....	.....	.....
15⅝	10⅝	17	12⅞	31,701,348	15	Socony Vacuum Oil Co.	20c	Mar. 16, 36	47,000	13⅛	†12⅞	13	— ⅛
116	111	113½	111⅞	764,925	100	S. O. Export Corp. pfd.	$2.50 S.A.	June 29, 35	10,700	112¼	112⅛	112¼	+ ⅛
41⅛	27¾	47⅜	37¼	13,102,900	N.P.	S. O. California	30c	Mar. 16, 36	13,600	38⅞	37¾	38⅜	+ ⅛
33⅝	23	40½	32¾	15,215,677	$25	S. O. Indiana	25c	Mar. 16, 36	10,100	35½	34⅛	34⅞	— ⅛
32	20	30	25	146,542	10	S. O. Kansas	50c	Oct. 31, 34	300	25	25	25	0
52⅜	35¾	70	51⅛	25,740,965	25	S. O. New Jersey	75c	Dec. 16, 35	27,900	61⅝	58⅜	61	+ 2½
77	60½	91	72	1,590,406	N.P.	Sun Oil Co.	25cQ	Mar. 16, 36	400	80	79	80	+ 2
121	115½	124	118	100,000	$100	do pfd.	$1.50Q	Mar. 2, 36	120	121	120	121	0
3½	1⅜	6¾	3	966,979	$1	Superior Oil Corp. (Del.)	....	.....	6,900	4⅞	4½	4¾	+ ⅛
30⅛	16½	39½	28⅞	9,851,236	$25	The Texas Corp.	25cQ	Apr. 1, 36	17,100	34¾	32¾	34¼	+ ⅞
9¼	3¼	15¼	7⅛	930,570	10	Texas Pacific Coal & Oil Co.	....	.....	7,600	11¼	9¾	10½	+ ¼
15⅞	7⅝	19⅛	14¾	5,998,919	N.P.	Tide Water Associated Oil Co.	25c	Jan. 15, 36	9,400	16⅞	15¾	16½	0
104½	84	106½	100⅝	695,503	$100	do pfd. C. T. V.	$1.50	Apr. 1, 36	1,500	105	104¼	105	+ ⅛
48	26¾	60	52	2,191,823	N.P.	Tide Water Oil Co.	50c	May 11, 36	10	55	55	55	— 3¼
24	14¾	28½	20⅞	4,386,070	25	Union Oil of California	25cQ	May 9, 36	4,500	23¾	22⅝	23½	+ ¾
26½	20¼	31⅝	22⅝	1,200,000	N.P.	Union Tank Car Co.	30cQ	Mar. 2, 36	1,300	24⅞	24¼	24⅜	+ ⅛
1⅝	¾	2⅞	1⅛	759,538	N.P.	Warner Quinlan Co.	....	.....	1,300	1⅝	1⅜	1½	0
3½	1	5¼	2¾	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	.....	3,800	4¾	4¼	4⅝	— ⅛

*New high. †New low. x Ex-div. **Dividends of liquidation. ‡Stock dividend. a Par 33 1/3 florins.
C Paid 25c extra Feb. 20, 36. d on accumulations under special plan.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1935 High	1935 Low	1936 High	1936 Low	Shares Issued	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended May 16 Sales Shares	High	Low	Last	Week's Change
16	6	18	12¼	36,000	$25	Borne Scrymser Co.	50c	Apr. 15, 36	.....	....	....	....	....
42½	30½	50	39¾	200,000	50	Buckeye Pipe Line Co.	75cQ	Mar. 14, 36	50	42	42	42	+ 1
157	115	124¾	110	120,000	25	Chesebrough Mfg. Co.	$1.50	Mar. 31, 36	400	109	105	108¼	— 1¾
23¾	10	34¾	19⅛	5,977,873	N.P.	Creole Petroleum Co.	20c	Dec. 31, 35	4,300	28¼	27⅜	28	0
38	33¼	44	39	50,000	$50	Eureka Pipe Line Co.	$1Q	May 1, 36	.....	....	....	....	....
64	44	76½	62½	8,968,479	N.P.	Humble Oil & Refg. Co.	25cQ	Apr. 1, 36	7,300	61½	57⅝	60	— 1⅝
22½	15⅜	24½	20	26,919,871	N.P.	Imperial Oil Ltd.	‡25cS.	Dec. 2, 35	11,100	23	21⅜	22½	+ ¾
22½	15½	24½	20½		N.P.	do registered	25cQ	June 1, 34	400	22¾	22½	22½	+ ⅝
6½	3⅝	9¼	5½	300,000	$10	Indiana Pipe Line Co.	20c**	May 15, 36	100	6¾	6¾	6¾	0
39⅝	28	39⅝	33½	14,324,088	N.P.	International Pet. Co.	‡75cS.	Dec. 2, 35	8,200	38⅛	36⅞	37⅞	+ ⅜
10⅝	6¾	15¾	10	509,000	$12.50	National Transit Co.	35c	Dec. 15, 34	800	10⅝	10¼	10½	— ½
4⅞	3	6¼	4½	100,000	5	New York Transit Co.	15c S.A.	Oct. 15, 34	.....	....	....	....	....
8	5¼	9½	6¼	120,000	10	Northern Pipe Line Co.	25c S.A.	Jan. 2, 35	1,300	6⅝	5¼	5¼	— 1
107¼	90¼	109¼	104½	562,122	100	Ohio Oil Co. pfd.	$1.50Q	Mar. 14, 36	740	108⅝	107	108¼	+ 1¾
11	5½	8	5¾	400,000	25	Penn Mex. Fuel Co.	....	Dec. 22, 33	.....	....	....	....	....
5	3⅛	7⅞	4⅜	100,000	10	Southern Pipe Line Co.	15c	Mar. 2, 36	100	5¼	5¼	5¼	0
34½	21⅝	40½	32½	1,200,000	25	South Penn Oil Co.	50c	Mar. 31, 36	1,300	35	34½	35	0
56	45¼	58	54	35,000	50	South West Pa. Pipe Lines	$1Q††	Dec. 31, 35	.....	....	....	....	....
24	18	23¾	17⅛	2,604,790	10	S. O. Kentucky	25c	Mar. 16, 36	1,900	17⅝	17¼	17⅝	+ ⅛
12	7¾	14⅝	11½	188,403	25	S. O. Nebraska	....	June 20, 34	200	12½	12¼	12½	+ ⅛
23⅝	11½	36¼	21¾	753,740	25	S. O. Ohio	....	Apr. 16, 34	4,800	30⅛	29	29½	+ ⅛
99½	89	105	97	120,000	100	do 5% pfd.	$1.25Q	Apr. 15, 36	125	104	103	104	+ 1
6	2¼	6¼	5⅜	34,158	25	Swan Finch Oil Corp.	87½c	Mar. 16, 36	.....	....	....	....	....

*New high. †New low. ‡Imperial Oil Spec. 37½c Dec. 2, 35. Internationa Pet. Spec. 50c Dec. 2, 35.
x Ex dividend. **15c regular; 5c extra. ††Paid $1 extra Dec. 31, 35.

Borne Scrymser Honors Meon

NEW YORK, May 18.—Philip C. Meon, vice-president of Borne Scrymser Co., manufacturer of technical and lubricating oils, was guest of honor at the annual banquet May 14 of the bowling club of the company, upon completion of 30 years of service with the company.

Orville G. Waring, president, was toastmaster. He presented Mr. Meon with a gift from those attending, among whom were all officers and directors of the company as well as 25 employes.

Other officers, besides Mr. Waring and Mr. Meon are: Albert C. Weed, vice-president, and Edward F. Strubel, secretary.

NEW YORK CURB BONDS

Week Ending May 16

	High	Low	Last	Change
Cities Serv. 5s '50	77¾	76⅞	77½	+ ⅝
Cities Serv. 5s '66	76⅝	76¼	76½	0
Cities Serv. G. 5⅛s '42	101½	100½	100⅝	+ ¼
Empire O & R 5⅛s '42	86	84⅝	85¼	— ¼
Gulf Oil 5s '47	105½	105¼	105¼	— ⅜

OIL AND ROYALTY STOCKS ON NEW YORK CURB

1935 High	1935 Low	1936 High	1936 Low	Par Value	Company	Transactions Week Ended May 16 Sales Shares	High	Low	Last	Week's Change
1/8	1/8	1 1/8	1/2	N.P.	American Maracaibo	5,400	1 1/2	1 3/8	1 1/2	0
3 1/8	5/8	7 5/8	3 1/4	N.P.	Arkansas Nat. Gas	1,900	6 1/8	6	6	0
3 3/4	5/8	7 3/4	3 1/4	N.P.	do A	8,200	6 1/8	5 7/8	6	0
7 1/2	2 1/4	9 3/4	7 1/8	$10	do pfd	800	8 1/8	7 7/8	8 1/8	+ 1/4
16 5/8	14 1/2	27 1/4	16 1/2	N.P.	British Amer. Oil coup.	100	23	23	23	+ 1
4 1/4	1 3/8	4 7/8	2 1/2	$ 1/4	Carib Syndicate	4,200	3 7/8	3 5/8	3 5/8	— 1/4
3 1/4	3/4	7 1/8	3	N.P.	Cities Service	32,800	4 5/8	4 3/8	4 1/2	0
47 1/4	6 1/4	58 1/4	41 1/2	$100	do pfd	3,200	51 3/4	49	51 1/2	+ 2 3/8
4 3/8	5/8	6 1/2	3 3/4	10	do pfd. B	300	4 1/8	†3 3/4	3 3/4	— 1/2
43	6	54	42	100	do pfd. BB	10	45	45	45	— 1
2 1/4	1/2	4	1 1/8	N.P.	Colon Oil Corp.	9,100	2 1/4	2	2	— 3/8
1 1/2	1/8	5 1/2	3/4	N.P.	Columbia Oil & Gas vtc.	3,500	4	3 3/4	4	0
3	1	5	2 1/8	$1	Consolidated Royalty	300	2 1/4	2	2	— 3/8
1 1/2	1/4	4 1/8	1 1/2	N.P.	Cosden Oil	1,200	2 5/8	2 3/8	2 1/2	+ 1/8
6 1/4	3/4	17	6 1/2	$100	do pfd					
2 1/2	5/8	2 3/4	1 3/4	N.P.	Crown Central Pet.	6,000	2 3/8	2 1/4	2 3/8	0
8 1/2	4	12	9	N.P.	Darby Petroleum	800	10 1/2	10	10	— 5/8
2	3/4	4 3/8	1 7/8	N.P.	Derby Oil & Refg.	50	38 3/4	38 3/4	38 3/4	— 2 1/4
20	20	49 1/4	25 1/2	N.P.	do pfd					
74 3/4	50 1/4	98	72	$25	Gulf Oil Corp.	5,800	84 1/4	81 5/8	82 1/4	— 1 1/4
4 1/4	1 3/8	6 1/4	3 1/4	N.P.	Indian Ter. Illg. Oil A	200	3 1/2	3 1/4	3 1/2	0
4 1/4	1 1/2	6 1/2	3 1/4	N.P.	do B	200	3 1/2	3 1/2	3 1/2	— 1/4
3	1 1/2	5 5/8	2 5/8	N.P.	Kirby Petroleum	2,900	4 5/8	4	4 1/2	+ 1/8
3/4	1/4	2	1/2	$25	Leonard Oil Dev.	10,200	1 1/8	3/4	7/8	— 1/8
8 1/4	3 1/2	15	7 1/8	N.P.	Lion Oil Refg.	300	11 1/8	10 1/2	11	— 7/8
10 7/8	4 1/2	14 1/4	9 7/8	N.P.	Lone Star Gas	2,300	12 1/2	11 3/4	12 1/2	+ 3/4
19	4	22 1/4	14	N.P.	Margay Oil Co.					
2 3/8	7/8	4 1/4	1 7/8	N.P.	Mexico-Ohio Oil					
3 3/8	1 1/8	4 3/4	1 1/8	N.P.	Michigan Gas & Oil	3,400	4 1/2	4	4 1/2	+ 1/4
3 1/8	1/8	6	3	N.P.	Mid. States Pet. A vtc.	100	3 3/4	3 3/4	3 3/4	+ 1/8
1/8	1/4	2 3/8	1/8	N.P.	do B vtc.	1,000	1 1/4	1 1/8	1 1/8	0
1/2	1/4	1/8	1/4	$1	Mountain & Gulf					
5 1/4	4 1/4	8 3/4	5	10	Mountain Producers	1,600	6	5 7/8	6	+ 1/8
20	11 3/4	23	17 3/4	N.P.	National Fuel Gas	3,600	18 5/8	†17 3/4	18 1/2	— 3/8
3 1/4	2	4 1/2	2 7/8	$5	New Bradford Oil					
4	2	8 3/8	3 3/8	N.P.	North Central Texas					
1/8	1/8	1/4	1/4	N.P.	North European	200	3/16	3/16	3/16	— 1/16
12 1/4	9 3/8	15 1/4	14 1/4	N.P.	Oil Stocks Ltd. A					
4 1/8	1 1/4	6 5/8	3 1/4	N.P.	Pantepec of Venezuela	20,600	6 1/8	5 3/4	5 7/8	+ 1/8
1/8	1/8	1	1/4	N.P.	Producers Royalty	1,100	1/4	1/4	1/4	0
3 3/4	1/4	15 1/2	3	N.P.	Red Bank Oil	4,500	9 7/8	8 3/8	9 1/2	— 1/2
1/2	1/8	1 1/2	1/8	N.P.	Reiter-Foster Oil	1,200	3/4	3/4	3/4	— 1/8
2 1/8	1/2	2 3/4	1 1/8	$25	Richfield Oil pfd.	500	1 3/4	1 1/2	1 1/2	— 1/4
5	1 1/2	19 1/4	4 1/2	..	Root Petroleum	4,500	16 1/4	14 7/8	15 7/8	+ 1 1/8
15 1/4	8	23	14 1/2	10	do conv. pr. pfd.	100	18 5/8	18 5/8	18 5/8	— 1 3/8
....	....	39 1/4	36 1/2	$10	Royalty Corp. pfd.					
2 1/2	5/8	4 3/4	1 7/8	N.P.	Ryan Consolidated	1,200	4	3 1/2	3 5/8	— 1/8
1	1/8	2 1/8	1/2	$10	Salt Creek Consolidated					
7 1/2	5 1/2	10	7	10	Salt Creek Prod.	1,300	8	7 1/2	8	+ 1/4
6 7/8	4 3/4	11 1/4	6 1/4	N.P.	Southland Royalty	1,100	8 1/4	8	8 1/4	+ 1/8
2 7/8	7/8	5	2 3/4	$5	Sunray Oil	14,300	4 3/4	4 1/2	4 1/2	— 1/8
4	2	6	4 1/4	$1	Swiss Oil Corp.	5,600	4 7/8	4 1/2	4 7/8	+ 3/8
6 7/8	5	9 1/4	4 1/2	N.P.	Texon Oil & Land	1,900	6 1/2	6 1/4	6 1/2	+ 1/4
2 1/4	1/8	3 1/2	1 1/2	$5	Venezuela Petroleum	700	1 7/8	1 3/4	1 7/8	0
6 1/8	3 1/2	11	5 5/8	1	Woodley Petroleum	600	8 1/4	8 1/8	8 1/4	0

*New high. †New low.

OIL DIVIDENDS

Dividends Waiting Payment

Company	Amount	Record	Payable
Atlantic Refg. Co. q	25c	May 21	June 15
Buckeye Pipe Line q	75c	May 29	June 15
Canadian O.I Cos. pfd. q	$2.00	June 20	July 1
Canfield Oil pfd. q	$1.75	June 20	June 30
Consolidated Oil $5 pfd. q	$1.25	May 15	June 1
McColl Frontenac Oil q	20c	May 15	June 15
Mid-Continent Pet.*	40c	May 1	June 1
Ohio Oil Co.**	25c	May 18	June 15
Ohio Oil pfd. q	$1.50	June 3	June 15
Pet. Corp. of America	25c	May 7	May 29
Phillips Pet. extra	25c	May 1	June 1
Phillips Pet. q	25c	May 1	June 1
Seaboard Oil of Del. q	25c	June 1	June 15
Skelly Oil Co. 6% pfd†	$1.50	July 1	Aug. 1
Standard of Calif. q	25c	May 15	June 15
Standard of Calif. extra	5c	May 15	June 15
Standard of Ind. q	25c	May 15	June 15
Standard of Ind. extra	15c	May 15	June 15
Standard of N. J. s	50c	May 16	June 15
Standard of N. J. extra	25c	May 16	June 15
Sun Oil Co. q	25c	May 25	June 15
Sun Oil Co. pfd. q	$1.50	May 11	June 1
Tide Water Assoc. Oil q	15c	May 11	June 1

*Last paid 25c Dec. 2, 35.
**Last paid 15c Dec. 14, 35.
†On accumulations.

CLEVELAND STOCK EXCHANGE

Transactions Week Ended May 16, 1936

	Sales	High	Low	Last	Change Over Week
Canfield Oil	....	....	....	....	....
do pfd	....	....	....	....	....
Nat'l Refining	400	6 1/2	6 3/8	6 1/2	+ 3/4
do pfd	41	74 1/2	72	72	+2

PITTSBURGH STOCK EXCHANGE

Transactions Week Ended May 15, 1936

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas pfd	400	8	8	8	0
†Cities Serv	111	4 3/8	4 1/8	4 1/4	— 1/8
Col. Gas & Elec.	614	18 1/4	16 3/4	18 1/4	+ 3/4
†Col. Oil & Gaso. VTC	20	3 3/4	3 5/8	3 3/4	— 1/8
Devonian Oil	240	19	18	18	—1
Lone Star Gas	1,117	12	11 5/8	12	+ 1/4
Mountain Fuel Supply	1,410	5 1/8	5	5 1/8	+ 1/8
Plymouth Oil	458	14 3/8	13 3/8	14	0
Shamrock Oil & Gas	706	4 1/8	4	4	— 1/8
†xStandard Oil of N. J.	261	61 1/2	59 3/8	60 3/4	+1 3/8

†Unlisted. x Ex dividend.

NEW YORK BONDS

Week Ended May 16

	High	Low	Last	Change
Atlantic Refg. deb. 5s	104 7/8	104 7/8	104 7/8	0
Houston Oil 5 1/2s	102 1/8	101 5/8	102 1/8	+ 1/8
Pan Amer. Pet. of Calif. 6s	49 5/8	48	49 5/8	+1 3/8
do 6s ctfs	49	46 5/8	48 1/4	+1 1/4
Pure Oil 4 1/4s '50 w.w.	119	116 1/2	118	0
do 4 1/2s '50 x.w.	103 7/8	103 1/2	103 1/2	— 3/8
Richfield Oil of Calif. 6s	40 3/4	39 1/2	40 3/4	+1 1/4
do 6s ctfs	41 1/8	39 1/8	40 1/4	+1 1/4
Shell Union Oil 3 1/2s	96 1/2	95 7/8	96 3/8	+ 1/2
Skelly Oil 4s '51	98 5/8	97 1/2	98 1/2	+1
Socony-Vacuum 3 1/2s	105	104 3/4	104 7/8	+ 1/8
Union Oil of Calif. 6s A	120 1/4	119 7/8	120 1/8	+ 1/2
do 4s	114 3/4	113 1/4	114 3/4	+1 1/2
Warner-Quinlan 6s	32	31	31 3/4	+ 1/4

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Standard of New Jersey Nets $2.43 Per Share, Largest Since 1929

WHILE net profits of the Standard Oil Co. (New Jersey) in 1935 were substantially higher than in 1934, and the highest since 1929, largely because of a stronger wholesale and retail markets, domestic refinery operations of the company again showed a loss and domestic marketing subsidiaries earnings' were not commensurate with the investment required to handle the volume of business, W. C. Teagle, president, told stockholders in his annual report.

Net profits of the company and its participation in the net profits of consolidated companies were $62,863,192, after all charges, equal to $2.43 a share on 25,856,081 shares (par $25) of capital stock. This compares with net profit of $45,618,960 or $1.76 a share in 1934.

Domestic refineries ran 116,266,000 barrels of crude during the year compared with approximately 119,000,000 barrels in 1934. Combined domestic and foreign refinery crude runs were 244,825,000 barrels, a daily average of about 670,000 barrels, an increase of 4 per cent over 1934, according to the statement.

During the greater part of the year, Mr. Teagle said, prices of refinery products were not up to the level warranted by the cost of crude. As a consequence, he added, domestic refinery operations again showed a loss.

Commenting on the inability of marketers to make a good earnings statement, even with an increase of gasoline consumption of 6.3 per cent which was supplied at a slightly higher average retail price, Mr. Teagle said that it "emphasizes more clearly than before the nature of certain fundamental difficulties and evils underlying the selling of gasoline. These conditions are general," he continued, "and while most of them are of long standing, there is good reason now to feel that progress is being made towards their correction."

"The essential problems which have resulted in making the average marketing cost per gallon too high or the retail selling price too low arise from (1) the fact that until recently reserves have been developed wastefully, resulting in too much crude oil being either currently produced or available for immediate production; (2) from a considerable excess of refining capacity; and (3) from the overbuilding of wholesale and retail distributing stations in every part of the country.

"In other words, the industry has provided raw materials, manufacturing and marketing facilities more rapidly than the demand warranted, with the result that the industry for some years has striven primarily for volume. In achieving this it too often has sacrificed any profit in its marketing."

The company was obtaining production from 12,397 wells at the end of the year. This was an increase of 436 wells from the end of 1934. Gross production of domestic and foreign companies amounted to 193,503,675 barrels in 1935, an average of 530,147 barrels daily. This figure includes total production of the companies in which there is a minority interest (except in Iraq where only the company's share of production is given) and one-half of the total production of the Standard-Vacuum Oil Co. in the Far East.

Of the total gross recovery in 1935, domestic companies accounted for 62,290,610 barrels, an average of 170,659 barrels daily.

Domestic subsidiaries were operating 4162 miles of pipeline on Dec. 31, 1935. These lines delivered 118,571,875 barrels of crude to terminals and 50,150,768 barrels to connecting carriers during 1935. The trend of pipeline rates has been downward, further reducing earnings.

Two of the outstanding developments of the Standard Oil Development Co. during 1935 were those of commercial production of "100 octane" aviation gasoline and of "Paratone," a synthetic agent for improving the viscosity of high grade lubricating oils. A large Paratone plant is being constructed in order to take care of increased demand, the report stated.

Taxes now rank in business budgets as one of the three largest items along with labor and cost of raw materials, frequently surpassing the labor item, Mr. Teagle said. "Instead of having a well-established, thoroughly understood and dependable machinery for raising the internal revenue, on which business can depend to estimate and plan for this large element of its budget expenditures, it is faced almost annually with fundamental changes in the system. We are now in the throes of a complete revamping of the Federal income tax system based on new and heretofore untried theories of corporate taxation.

"It seems to your management only a fair and just plea for your companies and all business to make that whatever system of corporate taxation is to be, it be simplified, stabilized and left in force long enough so that it can be understood, complied with and relied on in future corporate planning," Mr. Teagle stated.

The Standard of New Jersey's statements on fixed capital assets, consolidated balance sheet, and income and surplus items follow:

The gross book value of the fixed (capital) assets on December 31, 1935, as shown in the accompanying balance sheet is $17,779,260.52 more than on December 31, 1934, accounted for as follows:

Additions to properties during year	$112,245,915.53
Fixed (capital) assets as at beginning of year of companies not previously consolidated	4,923,106.56
	$117,169,022.09
Less retirements, sales etc., during year	99,389,761.57
Net additions	$17,779,260.52

The investment in properties, plant and equipment, together with the accrued reserve for depreciation, depletion and amortization, is summarized:

	Domestic	Foreign
Lands, leases and easements	$177,286,462.67	$215,845,481.12
Plt. and equip.	906,694,911.69	697,678,987.35
Incomplete construction	6,945,727.51	12,750,761.05
Marine equip.	81,366,113.54	95,834,451.65
Misc. property	13,378,164.09	6,074,340.87
Gross properties, plt. and equip.	$1,185,671,379.50	$1,028,184,022.04
Less res. for depr., depl., and amort.	622,823,265.35	571,081,302.97
Net properties, plt. and equip.	$562,848,114.15	$457,102,719.07

Consolidated income account of Standard Oil Co. of New Jersey and subsidiary companies, for year ended December 31, 1935, compares as follows:

	*1935	1934
Gross operat. inc.	$1,076,215,249	$1,017,972,537
Costs and expenses	825,830,189	795,270,662
Federal taxes, etc.	51,253,657	44,481,280
Balance	$199,131,403	$178,220,595
Depreciation	92,512,559	93,833,248
Depletion	8,482,551	6,518,163
Amortization	5,850,284	4,623,188
Retirements	11,493,940	6,658,989
Profit from oper.	$80,792,069	$66,587,007
Other income (net)	26,288,795	18,973,269
Profit	$107,080,864	$85,560,276
Interest, net	10,348,266	13,178,516
Sub. pref'd divs.	4,492,227	4,499,489
Minority interests	24,128,471	22,263,311
Profit	$68,111,900	$45,618,960
Undist. earnings of foreign subsid's	÷5,248,708	.....
Net profit	$62,863,192	$45,618,960
Dividends	$32,304,521	31,940,882
Surplus	$30,558,671	$13,678,078

*Income account for year 1935 is not strictly comparable with income accounts of previous years. Principal matters affecting a comparison are: (1) changes in depreciation and retirement procedures of certain companies (arising in part through regulatory commission requiring certain pipe line and gas companies to charge capital assets retired against depreciation reserves) and revision of the bases of valuing inventories of certain companies and of the methods of determining the dollar profits of certain subsidiaries operating in foreign countries; the foregoing resulted in an increase in the profits for 1935 of approximately $1,100,000; and (2) the deduction in 1935 from consolidated income of the undistributed earnings of certain foreign subsidiaries affected by restrictions on the payment of dividends, in the amount of $5,248,708. The foregoing changes resulted in a reduction of

approximately $4,150,000 in the income account of 1935.

†Undistributed earnings included above of certain foreign subsidiaries affected by restrictions on the payment of dividends, carried to contingent reserve.

§Cash dividend only; excludes $18,329,913 dividend paid in stock Mission Corp.

Consolidated balance sheet of Standard Oil Co. (New Jersey) and subsidiary companies, as of Dec. 31, 1935, compares as follows:

Assets	1935	1934
Cash	**$160,825,348	**$133,166,645
Marketable secur.	¶$88,334,607	93,852,530
Oil inventory	209,287,625	204,413,981
Merch. and supplies	56,977,033	57,730,792
Notes and accept's receiv., less reserve	5,977,788	6,457,877
Accts. res., less res.	119,208,363	112,196,237
Loans to employes	859,262	1,121,648
*Property account	1,019,950,833	1,045,928,816
§Pats., goodwill, etc.	34,569,208	36,451,237
Spec. dep. and funds	13,658,254	8,457,285
Investments	†† 135,445,924	182,428,745
Long term notes, mortgages, etc.	35,253,323	43,402,494
Deferred charges	14,566,915	16,101,577
Total	$1,894,914,483	$1,941,709,974
Liabilities		
Acc. notes pay., etc.	$98,043,366	$62,391,619
Accounts payable	73,126,841	81,203,615
Purch. oblig., curr.	9,984,621	26,879,954
Income tax reserve	17,408,266	16,340,903
Other accrued liab.	17,569,454	14,958,272
Res. for insur., etc.	54,174,430	52,254,144
Loans from trust of ann. tr.	80,858,389	76,367,812
Deferred credits	2,788,685	3,946,480
Res've foreign exch. fluct., net	17,806,358	26,130,701
Contingent reserve	¶¶11,017,021	.....
†Capital stock	646,402,025	646,402,025
Cap. st'k subs., etc.	334,834,354	344,310,428
Funded debt	52,773,731	§§141,461,816
††Bank loans	29,999,000	.....
Capital surplus	81,268,000	80,225,617
Approp. surplus	7,411,517	15,978,550
Unapprop. surplus	359,448,425	352,858,038
Total	$1,894,914,483	$1,941,709,974

*After reserves for depreciation, depletion and amortization. †Par, $25. ‡Includes call loans and bankers' acceptances. §After amortization. ¶At cost; less reserves, approximate aggregate quoted market value $89,500,000. **Includes $2,500,000 on deposit to secure loan of foreign subsidiary company. ††Includes 20,774 shares of Standard Oil of New Jersey stock held for employes' stock plan and other purposes, and 14,338 shares of Humble Oil & Refining Co. stock held for its employes' stock plan. ‡‡Payable in 1937 and 1938. §§Includes $90,000,000 Standard Oil Co. of New Jersey 5% debentures due 1946, called for payment Feb. 1, 1935, and $5,445,010 Anglo-American Oil Co., Ltd., 5½% debenture stock, called forpayment July 15, 1935. ¶¶Representing undistributed earnings of certain foreign subsidiaries.

* * *

Ohio Oil

FINDLAY, O.—Largely as a result of a substantial increase in sales at a higher average price, Ohio Oil Co. reports net earnings the first quarter, 1936 of more than three times net earnings in the same quarter the previous year. Economies in operation also were contributing factors to the better showing.

Net earnings of the company for the three months ended March 31, 1936 were $2,255,139, after all charges but before provision for federal income taxes, equal to 22 cents a share on the 6,563,377 shares of common stock outstanding after provision for preferred dividend requirements. This compares with net earnings of $687,812 on the same basis in the first quarter of 1935. The latter profit was not sufficient to cover preferred dividends.

Mission Corp.

NEW YORK—Mission Corp. reports net earnings for the first three months of 1936 of $267,790, after all charges, equal to 19 cents a share on the 1,399,345 shares of capital stock outstanding.

The corporation's entire income in the quarter was received from the Tide Water Associated Oil Co. as payment on Mission's holdings of 1,128,123 shares of the latter's common stock.

For the first quarter of 1936, Mission's equity in the earnings of Skelly Oil Co. and Tide Water Associated Oil Co. was $739,057 or 53 cents a share.

* * *

Extend "Mobilgas" Sales

NEW YORK, May 13.—The Socony-Vacuum Oil Company is introducing its "Mobilgas" to New York, New England and northern New Jersey this week with the largest newspaper and merchandising campaign in the company's history, according to Eben Griffiths, advertising manager.

The company is supplanting its "Socony" brand which has been marketed in New York and New England for many years. The introduction of "Mobilgas" in that area will now give it national distribution, it was stated.

The advertising campaign will be carried on in over 280 newspapers, and through five radio broadcasts, including the national program on the Columbia network and in local programs in some sections. Outdoor billboard advertising also will be used.

* * *

Uses Gas as Bus Fuel

WASHINGTON, May 15.—The Berliner Verkehrs-Gesellschaft of Germany (the Omnibus Co.) is planning to equip 20 buses to use lighting gas, compressed in drums, for fuel, the commerce department reports.

The buses are expected to be in service by mid-summer. The new equipment will cost 400 Reichsmarks per bus and the company expects to save up to 530 Reichsmarks per bus per year with the new fuel.

Tank stations will probably be erected at the ends of the line so that buses may pick up new drums of the compressed gas when needed.

* * *

Moves General Offices

TULSA, May 16.—General offices of Globe Oil & Refining Co. and its subsidiaries, Lario Oil & Gas Co. and Globe Pipe Line Co. will be moved June 1 from Blackwell, Okla. to Wichita, Kans. Approximately 50 employes will move to the new headquarters, which will be in the Union National Bank Building.

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Cold Weather Cuts Gasoline Demand in February

NEW YORK, May 18

UNUSUALLY severe weather the past winter doubtless accounts for one-third of the states showing decreases in gasoline consumption in February, a 29-day month, when, according to tax reports, consumption totaled 1,075,960,000 gallons, the American Petroleum Institute reveals. This compares with gallonage of 1,035,263,000 in February a year ago, a 28-day month, an increase of 40,697,000 this year, or 3.93 per cent. These figures do not include Arkansas and New Jersey for which none were available at the time the monthly table was compiled.

Daily average demand in February was 37,102,000 gallons, compared with 36,974,000 gallons in February, 1935, an increase of 128,000 gallons or 0.35 per cent in daily average.

Out of the 14 states indicating decreases, seven were in the Standard of Indiana territory, three in the southeast, two in the Rocky Mountain region and one on the Pacific Coast. These decreases ranged from 1.38 per cent in North Carolina to 55 per cent in South Dakota.

Increases ranged from 0.16 per cent in Oregon to 34.32 per cent in Vermont.

For the two months ended February this year, consumption was 2,310,816,000 gallons, an increase of 171,864,000 gallons or 6.24 per cent over the first two months of 1935, both figures excluding Arkansas and New Jersey.

In this period this year, five states reported decreases, these being Iowa, Mississippi, Nebraska, North and South Dakota.

Detailed figures are given in the accompanying table.

Gasoline Consumption By States, February, 1936

(Figures in Thousands of Gallons)

	Month of			% Change	2 Months Ended With			% Change
	Jan. 1936 Gallons	Feb., 1936 Gallons	Feb., 1935 Gallons	1936 over 1935	Feb., 1936 Gallons	Feb., 1935 Gallons		1936 over 1935
Alabama	13,351	15,469	11,625	+33.07	28,820	24,018		+19.99
Arizona	7,288	7,060	5,713	+22.58	14,348	11,784		+21.76
(a) Arkansas	.....	.....	.....	.....	.....	.....		.....
California	116,722	119,264	103,139	+15.63	235,986	204,237		+15.54
Colorado	14,312	11,048	10,621	+ 4.02	25,360	23,105		+ 9.76
Connecticut	19,021	16,287	14,295	+13.93	35,308	30,203		+16.90
Delaware	(r)2,881	2,543	2,461	+ 3.33	5,424	5,051		+ 7.38
Dist. of Col	8,900	8,211	7,351	+11.70	17,111	14,996		+14.10
Florida	26,295	30,373	26,975	+12.60	56,668	54,737		+ 3.53
Georgia	(r)20,619	20,036	19,032	+ 5.27	40,655	38,591		+ 5.35
Idaho	4,111	3,574	3,487	+ 2.49	7,685	6,756		+13.75
Illinois	73,800	67,565	64,459	+ 4.82	141,365	131,587		+ 7.43
Indiana	36,067	27,153	26,864	+ 1.07	63,220	57,349		+10.24
Iowa	29,194	18,208	23,144	—21.33	47,402	47,784		— 0.80
Kansas	29,600	22,430	24,677	— 9.10	52,030	50,711		+ 2.60
Kentucky	14,214	13,336	13,024	+ 2.39	27,550	27,028		+ 1.93
Louisiana	15,771	14,364	13,046	+10.10	30,135	26,594		+13.31
Maine	6,748	6,135	5,365	+14.35	12,883	11,342		+13.59
Maryland	15,037	13,945	12,612	+10.57	28,892	25,861		+12.09
Massachusetts	40,968	36,964	32,277	+14.52	77,932	69,646		+11.90
Michigan	65,780	54,654	52,729	+ 3.65	120,434	108,095		+11.41
Minnesota	28,757	18,936	22,328	—15.19	47,693	45,709		+ 4.34
Mississippi	12,802	8,025	10,668	—24.77	20,827	21,439		— 2.85
Missouri	40,807	31,042	31,915	— 2.73	71,849	66,811		+ 7.54
Montana	6,568	3,749	4,925	—23.88	10,317	8,864		+16.39
Nebraska	16,182	a11,105	16,939	—34.44	27,287	32,472		—15.97
Nevada	1,936	1,875	1,808	+ 3.70	3,811	3,690		+ 3.28
New Hampshire	4,614	4,216	3,604	+16.98	8,830	7,638		+15.61
(a) New Jersey	.....	.....	.....	.....	.....	.....		.....
New Mexico	5,239	4,762	4,589	+ 3.77	10,001	8,522		+17.35
New York	110,151	94,412	88,893	+ 6.21	204,563	195,445		+ 4.66
North Carolina	22,618	20,237	20,521	— 1.38	42,855	41,121		+ 4.22
North Dakota	4,466	2,094	4,411	—52.53	6,560	9,126		—39.11
Ohio	78,632	69,135	63,195	+ 9.40	147,767	135,859		+ 8.76
Oklahoma	26,880	23,484	22,415	+ 4.77	50,364	46,198		+ 9.02
Oregon	12,647	11,352	11,334	+ 0.16	23,999	21,990		+ 9.13
Pennsylvania	78,440	73,123	71,716	+ 1.96	151,563	146,662		+ 3.34
Rhode Island	7,951	7,169	6,254	+14.63	15,120	13,237		+14.22
South Caroline	11,132	10,832	10,154	+ 6.68	21,964	20,283		+ 8.29
South Dakota	6,805	4,041	6,260	—54.91	10,846	14,222		—23.74
Tennessee	18,182	16,241	14,347	+13.20	34,423	31,067		+10.80
Texas	80,035	74,812	68,193	+ 9.71	154,847	141,781		+ 9.21
Utah	5,703	3,872	4,176	— 7.85	9,575	8,510		+12.51
Vermont	3,279	3,049	2,270	+34.32	6,328	4,744		+33.39
Virginia	24,086	15,949	17,597	— 9.36	40,035	36,059		+11.03
Washington	19,373	18,123	18,788	— 3.54	37,496	34,605		+ 8.35
West Virginia	11,174	10,948	9,557	+14.55	22,122	19,968		+10.79
Wisconsin	32,454	22,401	23,188	— 3.39	54,855	48,644		+12.77
Wyoming	3,264	2,357	2,322	+ 1.51	5,621	4,811		+16.84
Total 46 States and Dist. of Col.	1,234,856	1,075,960	1,035,263	+ 3.93	2,310,816	2,138,952		+ 8.03
Daily Average	39,834	37,102	36,974	+ 0.35	38,514	36,253		+ 6.24
Change from previous year:								
Total change	.....	+40,697	.....	.....	+171,864	.....		.....
Percentage change in Daily Avg.	.....	+0.35%	.....	.....	+6.24%	.....		.....

(a) Figures were not available, on comparable basis, at time of publication.
(r) Revised.

Refund Law Reduces Tax Loss

OKLAHOMA CITY, May 16.—A reduction of about 50 per cent in sales of tax-free gasoline in Oklahoma and an increase of more than $500,000 in the state's gasoline tax revenue has resulted from a change in the motor fuel tax law, the Oklahoma Tax Commission reports. The change substitutes refunds for the exemptions previously granted on gasoline sold for agricultural purposes.

The commission reports that from May 1934 through April 1935 there were 33,292,257 gallons of gasoline exempted from payment of the motor fuel tax, whereas, during the next year, with the new refund law in operation, a return of tax payments was granted on only 17,697,245 gallons.

Prior to the change in the Oklahoma tax law, the buyer could claim exemption from payment of the gasoline tax at the time of purchase, while the new law provides that the tax must be paid at the time of purchase and an application made to the tax commission for refunds.

Wisconsin Jobbers Protest Tax Refund Ruling

MADISON, May 14.—Wisconsin jobbers protested a state treasury department ruling, requiring that original sales tickets be attached to tax refund claims, at the Wisconsin Petroleum Association meeting May 13 in Madison. A jobber committee was appointed to confer with treasury department officials regarding the protest.

The treasury department recently issued a regulation that after July 1 claimants of tax refunds would have to obtain a white original sales slip containing complete data of the transaction to accompany refund claims.

For marketers the regulation involves using sales books having the white slip as the original, after July 1, and surrendering the original penciled slip and retaining the carbon copy.

Robert K. Henry, state treasurer, and Arthur Pugh, chief of gasoline tax division, attended the meeting and explained the regulation.

Jobbers protested on three points. Original, penciled sales slips, they contended, were easier to alter than a carbon copy, hence frauds through erasures or addition of figures to increase the gallonage of the sale would be easier than with present carbon copies.

Under general business practice the seller retains the original sales slip, they continued, giving the carbon copy to the buyer. In case of litigation, and in audits, original records are required.

A third point raised was of a conflict between federal and state regulations for jobbers blending and paying the federal gasoline tax direct.